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COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF FORESTS AND WATERS  
HARRISBURG

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WATER RESOURCES SERVICE

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# Stream Flow Records

Prepared in Co-operation with the  
United States Geological Survey

THE PA. STATE  
COLLEGE

FOR THE YEAR

October 1, 1933, to September 30, 1934.

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P385  
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Stream Flow Records  
of  
Pennsylvania  
for the Year  
October 1, 1933, to September 30, 1934

**STREAM GAGING, FLOOD WARNING, AND  
PRECIPITATION**

This volume contains records for the year ending September 30, 1934. All stream flow records previous to and including those for 1911, were published in the 1910-1911 Report of the Water Supply Commission of Pennsylvania. For the years 1912 to 1921, they were published in the annual reports of the Water Supply Commission, with the records for 1917-1918 and 1919-1920 combined and issued in biennial form. Beginning with 1922 the records have been published by the Department of Forests and Waters, Water Resources Service, in reports entitled Stream Flow Records of Pennsylvania. They were published annually with the exception of those for the four years 1929-1932, which were assembled and issued under one cover. To and including the 1913 records, they were compiled for calendar years. The 1914 record was tabulated for the nine months, January to September, while subsequent records have been published for water years, October 1 to September 30.

Since June 1, 1931, the water resource investigations in Pennsylvania, including the collection of stream flow data, have been carried on under co-operative agreement with the Water Resources Branch of the United States Geological Survey.

**STREAM GAGING**

At the beginning of this report period on October 1, 1933, one hundred stream gaging stations were in operation. Five stations were discontinued during the year and five new ones were established, leaving one hundred stations in operation on September 30, 1934. The locations of the five discontinued stations and the dates when they went out of operation are as follows:

Codorus Creek at York, October 1, 1933.  
Leipsic River near Cheswold, Del., October 31, 1933.  
Murderkill River near Felton, Del., October 31, 1933.  
Mill Creek at Stanton, Del., October 31, 1933.  
Shenango River near Jamestown, July 31, 1934.



The locations of the five stations that were established during the year and the dates when they were placed in operation are as follows:

Monongahela River at Charleroi, October 1, 1933.

Ohio River at Sewickley, October 1, 1933.

Pymatuning Reservoir at Pymatuning Dam, October 1, 1933.

Sugar Run at Pymatuning Dam, March 9, 1934.

Shenango River at Pymatuning Dam, June 6, 1934.

The newly established stations were provided with wells, shelters, and water-stage records, making a total of fifty-two stations supplied with recorder equipment in the State.

This volume contains data for one hundred and ten stations, as shown by the tables of gaging stations and the map showing location of gaging stations, of which the records for the four stations on the Delaware River, two stations in the Potomac River Basin, and one station in the Monongahela River Basin are furnished by the New York, New Jersey, and Washington Offices of the United States Geological Survey. Descriptions of stations, tables of daily and monthly discharge, summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation are given for ninety-nine gaging stations having a satisfactory rating, while descriptions of stations and daily mean gage heights are published for four base stations operated in the Susquehanna Basin for flood warning purposes.

Records of daily discharge have not been published for Leipsic River near Cheswold, Del., Mill Creek at Stanton, Del., and Murderkill River near Felton, Del. These stations were discontinued on October 31, 1933, as they had served the purpose for which they were established. Their records were used in connection with the Delaware River Salinity Survey of the Pennsylvania Department of Health. The October 1933 current meter discharge measurements are published in the table of miscellaneous discharge measurements on page 143. The daily discharges are available and will be furnished upon request to the Department of Forests and Waters, Water Resources Service, Harrisburg, Pa.

The station rating does not justify the determination of discharge for Upper Little Swatara Creek at Pine Grove. The results of current meter discharge measurements are published in the table of miscellaneous discharge measurements on page 143. The 1932-1934 records for this station will probably be published in the 1934-1935 Report.

Daily gage heights for the Kiskiminitas River at Vandergrift are not published. The information collected for this station can be obtained upon request to the Department of Forests and Waters, Water Resources Service, Harrisburg, Pa.

The record for Chartiers Creek at Carnegie was badly broken during the year owing to bridge construction at the location of the gage. No records are published for this station excepting the results of current meter discharge measurements which can be found in the table of

miscellaneous discharge measurements on page 143.

The 1932 and 1933 records are published for Big Piney Run near Salisbury and South Fork of Tenmile Creek at Jefferson. The 1933 records are published for Conestoga Creek at Lancaster, North Bald Eagle Creek at Milesburg, Sugar Creek at Sugarcreek, and Tionesta Creek at Nebraska. The October, November, and December 1934 records are published for Neshaminy Creek at Rushland.

For stations where a maximum discharge has not been determined and published, a probable estimate can be obtained upon request to the Department of Forests and Waters, Water Resources Service, Harrisburg, Pa.

The flow in the primary drainage basins of the State for the year ending September 30, 1934, as represented by a total drainage area of 42,060 square miles, equivalent to an area of 93.2 per cent of the total area of Pennsylvania, was 27 per cent below the mean flow for the 25 years of 1910 to 1934. The flow for the year was only 9 per cent above that of the unprecedented drought year of 1931.

The flow in the Delaware River was about 15 per cent below the mean flow for the 25 years 1910-1934. In the Susquehanna and Ohio River Basins the flow was about 30 per cent below the mean for the same period.

With but few exceptions the high flows in the primary streams were in March and the low discharges were in July. In general the streams were seriously affected by ice during the winter months.

## FLOOD WARNING

The Flood Warning Service was continued in the Susquehanna Basin throughout the year. There were no unusually high stages in streams with large drainage areas; however, information relating to material increases in stream flow was furnished on several occasions to commercial and recreational interests along the major streams.

## PRECIPITATION

Forty rainfall stations are maintained by the Department of Forests and Waters. Prior to 1920 the Water Supply Commission of Pennsylvania published precipitation records in its annual reports. Since that time, with the exception of a few cases where stations are located in close proximity to others, these records may be found in the monthly and annual reports of the United States Weather Bureau. Records for stations not published by the Weather Bureau are available at the office of the Department of Forests and Waters, Water Resources Service, Harrisburg, Pa.

The average precipitation for the State during the year ending September 30, 1934, as deducted from the observations at 145 well-distributed stations, was 37.89 inches, which was a deficiency of 4.31 inches as compared with the average, computed from the 47 years of



record 1888 to 1934.

The yearly totals ranged from a minimum of 25.02 inches at Erie, Erie County, to a maximum of 51.39 inches at Pleasant Mount, Wayne County. The monthly records ranged from 1.56 inches below the normal in February to 3.08 inches above the 47-year average in September as shown in the following table.

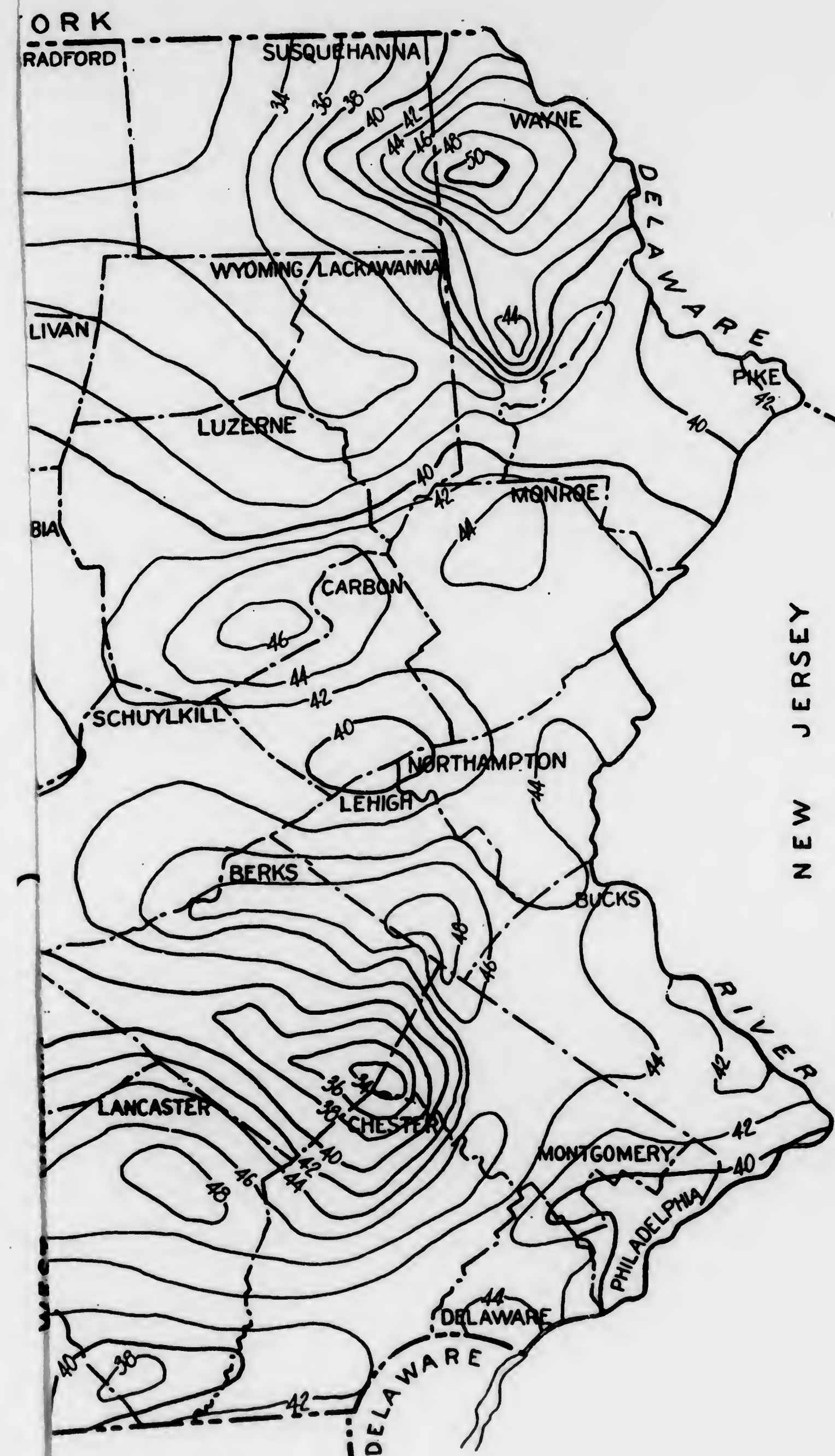
Precipitation on Pennsylvania for the year ending Sept. 30, 1934.

Month	Precipitation in inches	
	47-year Average	1933-34
October .....	3.21	1.91
November .....	2.83	1.55
December .....	3.13	2.88
January .....	3.20	2.54
February .....	2.87	1.31
March .....	3.48	2.96
April .....	3.42	3.06
May .....	3.94	2.51
June .....	4.10	3.64
July .....	4.29	4.01
August .....	4.23	4.94
September .....	3.50	6.58
The Year .....	42.20	37.89

The distribution of precipitation on Pennsylvania during the year ending September 30, 1934, was fairly uniform as shown on the following map. On the Delaware River Basin it averaged about 40 inches while on the Susquehanna and Ohio River Basins it was about 30 inches.

A monthly and yearly tabulation of precipitation on Pennsylvania for the 47 years ending September 1934 will be found on page 149.

## PRECIPITATION

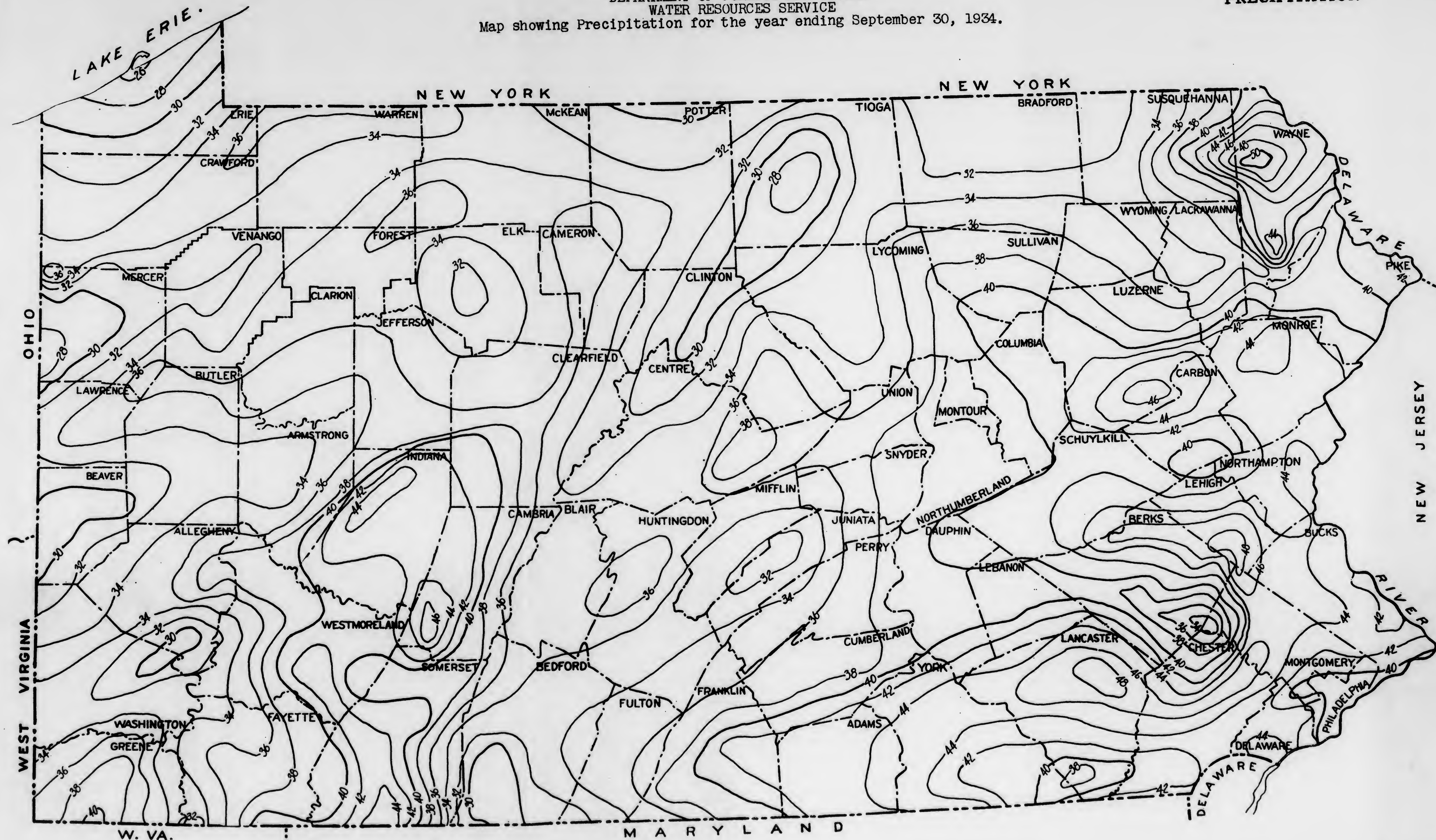




DEPARTMENT OF FORESTS AND WATERS  
WATER RESOURCES SERVICE  
Map showing Precipitation for the year ending September 30, 1934.

PRECIPITATION

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## STREAM FLOW RECORDS

### DEFINITIONS OF TERMS

The volume of water flowing in a stream—the “run-off” or “discharge”—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, and run-off in inches. They may be defined as follows:

“Second-foot” is an abbreviation for “cubic feet per second.” A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

“Second-feet per square mile” is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

“Run-off in inches” is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An “acre-foot” is equivalent to 43,560 cubic feet and is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage and irrigation.

The following terms not in common use are here defined:

“Stage-discharge relation”—an abbreviation for the term “relation of gage height to discharge.”

“Control”—a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

## CONVERSION TABLES

The following tables afford a ready means of conversion between the terms in common use in hydraulic computations.

*Discharge in second-feet per square mile into run-off in depth in inches*

Discharge (Second-feet per square mile)	Run-off (depth in inches)				
	1 day	28 days	29 days	30 days	31 days
1	0.03719	1.041	1.079	1.116	1.153
2	.07438	2.083	2.157	2.231	2.305
3	.11157	3.124	3.236	3.347	3.459
4	.14876	4.165	4.314	4.463	4.612
5	.18595	5.207	5.399	5.578	5.764
6	.22314	6.248	6.471	6.694	6.917
7	.26033	7.289	7.550	7.810	8.070
8	.29752	8.331	8.628	8.925	9.223
9	.33471	9.372	9.707	10.041	10.376

Note—For part of a month multiply the run-off for 1 day by the number of days.

*Discharge in second-feet into run-off in acre-feet.*

Discharge (second-feet)	Run-off (acre-feet)				
	1 day	28 days	29 days	30 days	31 days
1	1.983	55.54	57.52	59.50	61.49
2	3.967	111.1	115.0	119.0	123.0
3	5.950	166.6	172.6	178.5	184.5
4	7.934	222.1	230.1	238.0	246.0
5	9.917	277.7	287.6	297.5	307.4
6	11.90	333.2	345.1	357.0	368.9
7	13.88	388.8	402.6	416.5	430.4
8	15.87	444.3	460.2	476.0	491.9
9	17.85	499.8	517.7	535.5	553.4

Note—For part of a month multiply the run-off for 1 day by the number of days.

*Discharge in second-feet into run-off in millions of cubic feet.*

Discharge (second-feet)	Run-off (millions of cubic feet)				
	1 day	28 days	29 days	30 days	31 days
1	0.0684	2.419	2.506	2.592	2.678
2	.1728	4.838	5.012	5.184	5.356
3	.2592	7.257	7.518	7.776	8.034
4	.3456	9.676	10.02	10.37	10.71
5	.4320	12.10	12.53	12.96	13.39
6	.5184	14.51	15.04	15.55	16.07
7	.6048	16.93	17.54	18.14	18.75
8	.6912	19.35	20.06	20.74	21.42
9	.7776	21.77	22.55	23.33	24.10

Note—For part of a month multiply the run-off for 1 day by the number of days.



Discharge in second-feet into run-off in millions of gallons.

Discharge (second-feet)	Run-off (millions of gallons)				
	1 day	28 days	29 days	30 days	31 days
1	0.6463	18.10	18.74	19.39	20.04
2	1.293	36.20	37.48	38.78	40.08
3	1.939	54.30	56.22	58.17	60.12
4	2.585	72.40	74.96	77.56	80.16
5	3.232	90.50	93.70	96.95	100.2
6	3.878	108.6	112.4	116.3	120.2
7	4.524	126.7	131.2	135.7	140.3
8	5.170	144.8	149.9	155.1	160.3
9	5.817	162.9	168.7	174.5	180.4

Note—For part of a month multiply the run-off for 1 day by the number of days.

Velocity in feet per second into velocity in miles per hour.

(1 foot per second=0.681818 mile per hour, or very nearly two-thirds mile per hour; 1 mile per hour=1.46666 feet per second. In computing the table the values 0.68182 and 1.4667 were used).

Feet per second (units)	Miles per hour for tenths of foot per second									
	0	1	2	3	4	5	6	7	8	9
0	0.000	0.068	0.136	0.205	0.273	0.341	0.409	0.477	0.545	0.614
1	.082	.750	.818	.886	.955	1.02	1.09	1.16	1.23	1.30
2	1.36	1.43	1.50	1.57	1.64	1.70	1.77	1.84	1.91	1.98
3	2.05	2.11	2.18	2.25	2.32	2.39	2.45	2.52	2.59	2.66
4	2.73	2.80	2.86	2.93	3.00	3.07	3.14	3.20	3.27	3.34
5	3.41	3.48	3.55	3.61	3.68	3.75	3.82	3.89	3.95	4.02
6	4.09	4.16	4.23	4.30	4.36	4.43	4.50	4.57	4.64	4.70
7	4.77	4.84	4.91	4.98	5.05	5.11	5.18	5.25	5.32	5.39
8	5.45	5.52	5.59	5.66	5.73	5.80	5.86	5.93	6.00	6.07
9	6.14	6.20	6.27	6.34	6.41	6.48	6.55	6.61	6.68	6.75

CONVENIENT EQUIVALENTS.

LENGTH

1 inch=1/12 foot=0.027778 yard=0.000015783 mile=2.54 centimeters.  
 1 foot=12 inches=1/3 yard=0.00018939 mile=0.3048 meter.  
 1 yard=36 inches=3 feet=0.0006818 mile=0.9144 meter.  
 1 mile=63,360 inches=5,280 feet=1,760 yards=1.60935 kilometers.  
 1 meter=100 centimeters=0.001 kilometer=39.37 inches=3.2808 feet=1.0936 yards=0.00062137 mile.

SURFACE

1 square inch=0.000944 square foot=0.0007716 square yard=0.0000001594 acre=0.000000002491 square mile=6.45163 square centimeters.  
 1 square foot=144 square inches=1/9 square yard=0.000022957 acre=0.0000003587 square mile=0.092903 square meter.  
 1 square yard=1,296 square inches=9 square feet=0.0002066 acre=0.0000003228 square mile=0.83613 square meter.  
 1 acre=6,272,640 square inches=43,560 square feet=4,840 square yards=0.0015625 square mile=208.71 feet square=0.404687 hectare.  
 1 square mile=4,014,489,600 square inches=27,878,400 square feet=8,091,000 square yards=640 acres=259 hectares.  
 1 square meter=10,000 square centimeters=0.0001 hectare=0.000001 square kilometer=1.550 square inches=10.7639 square feet=1.19596 square yards=0.0002471 acre=0.0000008861 square mile.

VOLUME

1 cubic inch=0.004329 United States gallon=0.0005787 cubic foot=16.3872 cubic centimeters.  
 1 United States gallon=231 cubic inches=0.13368 cubic foot=0.00000307 acre foot=3.78543 liters.  
 1 cubic foot=1,728 cubic inches=7.4805 United States gallons=0.087037 cubic yards=0.000022957 acre-foot=28.317 liters.  
 1 cubic yard=46,656 cubic inches=27 cubic feet=0.00061983 acre-foot=0.76456 cubic meter.  
 1 acre foot=325,851 United States gallons=43,560 cubic feet=1.613 1/3 cubic yards=1,233.49 cubic meters.  
 1 cubic meter, stere, or kiloliter=1,000,000 cubic centimeters=1,000 liters=61.023.4 cubic inches=264.17 United States gallons=35.3145 cubic feet=1.35794 cubic yards=0.000810708 acre-foot.

HYDRAULICS

1 United States gallon of water weighs 8.34 pounds avoirdupois.  
 1 cubic foot of water weighs 62.5 pounds avoirdupois.  
 1 second-foot=7.48 United States gallons per second=448.8 United States gallons per minute=26,929.9 United States gallons per hour=646,317 United States gallons per day.  
 1 second-foot=60 cubic feet per minute=3,600 cubic feet per hour=86,400 cubic feet per day=31,536,000 cubic feet per year=0.000214 cubic mile per year.  
 1 second-foot=0.9917 acre-inch per hour=1.983471 acre-feet per day=723,966942 acre-feet per year.  
 1 second-foot=0.028317 cubic meter per second=1.699 cubic meters per minute=101.941 cubic meters per hour=2,446.58 cubic meters per day.  
 1 second-foot for 1 year (365 days) will cover 1 square mile 1.1312 feet or 13.5744 inches deep.  
 1 second-foot falling 10 feet=1.135 horsepower.  
 100 United States gallons per minute=0.223 second-foot=0.442 acre-foot in one day.  
 1 million gallons per day=1.55 second-foot=3.07 acre-feet per day=2.629 cubic meters per minute.  
 1 million gallons per month=0.05525 second-foot for one 28-day month=0.05334 second-foot for one 29-day month=0.05157 second-foot for one 30-day month=0.04990 second-foot for one 31-day month.  
 1,000,000,000 (1 United States billion) cubic feet=11,570 second-feet for one day=413 second-feet for one 28-day month=399 second-feet for one 29-day month=386 second-feet for one 30-day month=373 second-feet for one 31-day month.  
 1 horsepower=1 second-foot falling 8.8 feet.  
 1 horsepower=1 second-foot falling 11.0 feet, 80 percent efficiency.  
 1 horsepower=5,694,120 foot-gallons per day=550 foot-pounds per second=33,000 foot-pounds per minute=1,980,000 foot-pounds per hour=2,545 British thermal units per hour=76 kilogrammeters per second=1.27 kilogrammeters per minute=746 watts.  
 1.3405 horsepower=1 kilowatt.  
 1 inch deep on 1 square mile=2,323,200 cubic feet=0.0737 second-foot for 1 year.  
 1 foot deep (head of 1 foot)=0.434 pound pressure on 1 square inch.  
 1 cubic meter per minute=0.5886 second-foot=4.403 United States gallons per second=1.1674 acre-feet per day.  
 1 foot per second=0.68 mile per hour=1.097 kilometers per hour.  
 Acceleration of gravity, g=32.16 feet per second.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1933, and ending September 30, 1934. At the beginning of January in most parts of the United States much of the precipitation in the preceding 3 months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground water, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore, the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.



The data presented for each gaging station covered by this report comprise a description of the station, a table showing the daily discharge of the stream, a table of monthly and yearly discharge and run-off, and a summary table of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation. For stations with insufficient base data to determine the daily discharge, the results of current meter discharge measurements are published in the table of miscellaneous discharge measurements.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded discharges, accuracy of the records, and average discharge for the stations that have a record for ten or more years. The maximum discharge given under "Extremes" represents the crest discharge determined from records of stage by water-stage recorders, or in case of non-recording gages it is determined from flood marks or from graphs based on gage readings made once daily or more frequently.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be a once-daily reading or the mean of twice-daily readings of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation, the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders, the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument for obtaining mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 14.

#### ACCURACY OF FIELD DATA AND COMPUTED RECORDS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that records are accurate within 5 per cent; "good," within 10 per cent; "fair," within 15 per cent; and "poor," within 20 per cent or more.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

#### CO-OPERATION

Acknowledgment is due the following agencies for equipment and assistance in the collection of records.

- American Sheet and Tin Plate Co., Vandergrift, Pa., (Vandergrift).
- Bethlehem Steel Co., Johnstown, Pa., (Johnstown).
- City of Lancaster, (Lancaster).
- City of New Castle, (New Castle).
- City of Philadelphia, (Philadelphia).
- City of Wilmington, Del., (Chadds Ford).
- Clarion River Power Co., Johnstown, Pa., (Piney).
- Gladfelter Paper Co., Spring Grove, Pa., (Spring Grove).
- Panther Valley Water Co., Lansford, Pa., (Tamaqua).
- Penn Central Power Co., Altoona, Pa., (Saxton).
- Pennsylvania Power and Light Co., Allentown, Pa., (Wilsonville).
- Philadelphia Electric Co., Philadelphia, Pa., (Castle Fin, Harrisburg, Lancaster, and Manchester).
- Robert O. Hayt, Consulting Engineer, Corning, N. Y., (Loyalsock).
- Safe Harbor Water Power Corp., Baltimore, Md., (Marietta).
- Suburban Water Co., Bryn Mawr, Pa., (Woodlyn).
- United States Engineer Office, Baltimore, Md., (Dalmatia, Gapsville, Huntingdon, Marklesburg, Millerstown, Penns Creek, Shermandale, and Wapwallopen).
- United States Engineer Office, Philadelphia, Pa., (Bethlehem and Tannery).
- United States Engineer Office, Pittsburgh, Pa., (Charleroi, Franklin, Larabee, Parkers Landing, Sugar Creek, Sutersville, Utica, and Wampum).
- United States Geological Survey, Albany, N. Y., (Port Jervis).



United States Geological Survey, Trenton, N. J., (Belvidere, Riegelsville, and Trenton).

United States Geological Survey, Washington, D. C., (Bedford Valley, Salisbury, and Sylvan).

United States Weather Bureau, Harrisburg, Pa., (Corning, Newport, and Sunbury).

West Penn Power Co., Pittsburgh, Pa., (Connellsville).

York Water Co., York, Pa., (York).

The Commonwealth of Pennsylvania is divided into six drainage basins: Delaware, Susquehanna, Potomac, Genesee, Erie, and Ohio. The hydrographic data in the following pages are divided into four groups corresponding to the basis in which the stations are located. There are no gaging stations in the Erie or Genesee Basins. The stations in each basin are shown in the following tables and their locations are indicated on the stream gaging map with reference numbers corresponding to those given in the tables.

#### GAGING STATIONS IN DELAWARE RIVER BASIN \*

Station No.	Stream	Location
1	Delaware River .....	Port Jervis, N. Y.
2	Delaware River .....	Belvidere, N. J.
3	Delaware River .....	Riegelsville, N. J.
4	Delaware River .....	Trenton, N. J.
5	Lackawaxen River .....	West Hawley
6	Wallenpaupack Creek .....	Wilsonville
7	Bushkill Creek .....	Shoemakers
8	McMichaels Creek .....	Stroudsburg
9	Lehigh River .....	Tannery
10	Lehigh River .....	Bethlehem
11	Neshaminy Creek .....	Rushland
12	Schuylkill River .....	Pottstown
13	Schuylkill River .....	Philadelphia
14	Little Schuylkill River .....	Tamaqua
15	Perkiomen Creek .....	Graters Ford
16	Crum Creek .....	Woodlyn
17	Ridley Creek .....	Moylan
18	Chester Creek .....	Chester
19	White Clay Creek .....	Newark, Del.
20	Mill Creek .....	Stanton, Del.
21	Brandywine Creek .....	Chadds Ford
22	Leipsic River .....	Cheswold, Del.
23	Murderkill River .....	Felton, Del.

\* For information available on each station, see description of station.

#### GAGING STATIONS IN SUSQUEHANNA RIVER BASIN \*

Station No.	Stream	Location
1	North Branch of Susquehanna River .....	Binghamton, N. Y.
2	North Branch of Susquehanna River .....	Towanda
3	North Branch of Susquehanna River .....	Wilkes-Barre
4	North Branch of Susquehanna River .....	Danville
5	Susquehanna River .....	Sunbury
6	Susquehanna River .....	Harrisburg
7	Susquehanna River .....	Marietta
8	Chemung River .....	Corning, N. Y.
9	Towanda Creek .....	Monroeton
10	Tunkhannock Creek .....	Dixon
11	Wapwallopen Creek .....	Wapwallopen
12	West Branch of Susquehanna River .....	Bower
13	West Branch of Susquehanna River .....	Renovo
14	West Branch of Susquehanna River .....	Lock Haven
15	West Branch of Susquehanna River .....	Williamsport
16	Clearfield Creek .....	Dimeling
17	Driftwood Branch of Sinnemahoning Creek ..	Sterling Run
18	North Bald Eagle Creek .....	Milesburg
19	North Bald Eagle Creek .....	Beech Creek Station
20	Pine Creek .....	Cedar Run
21	Lycoming Creek .....	Trout Run
22	Loyalsock Creek .....	Loyalsock
23	Penn Creek .....	Penns Creek
24	Mahantango Creek East .....	Dalmatia
25	Frankstown Branch of Juniata River .....	Williamsburg
26	Juniata River .....	Newport
27	Shaver Creek .....	Petersburg
28	Standing Stone Creek .....	Huntingdon
29	Raystown Branch of Juniata River .....	Saxton
30	Dunning Creek .....	Yount
31	Brush Creek .....	Gapsville
32	Great Trough Creek .....	Marklesburg
33	Aughwick Creek .....	Orbisonia
34	Tuscarora Creek .....	Port Royal
35	Cocolamus Creek .....	Millerstown
36	Sherman Creek .....	Shermandale
37	Conodoguinet Creek .....	Hogestown
38	Swatara Creek .....	Harper Tavern
39	Upper Little Swatara Creek .....	Pine Grove
40	West Conewago Creek .....	Manchester
41	Codorus Creek .....	Spring Grove
42	South Branch of Codorus Creek .....	York
43	Conestoga Creek .....	Lancaster
44	Muddy Creek .....	Castle Fin

#### GAGING STATIONS IN POTOMAC RIVER BASIN \*

Station No.	Stream	Location
1	Evitts Creek .....	Bedford Valley
2	Licking Creek .....	Sylvan

\* For information available on each station, see description of station.

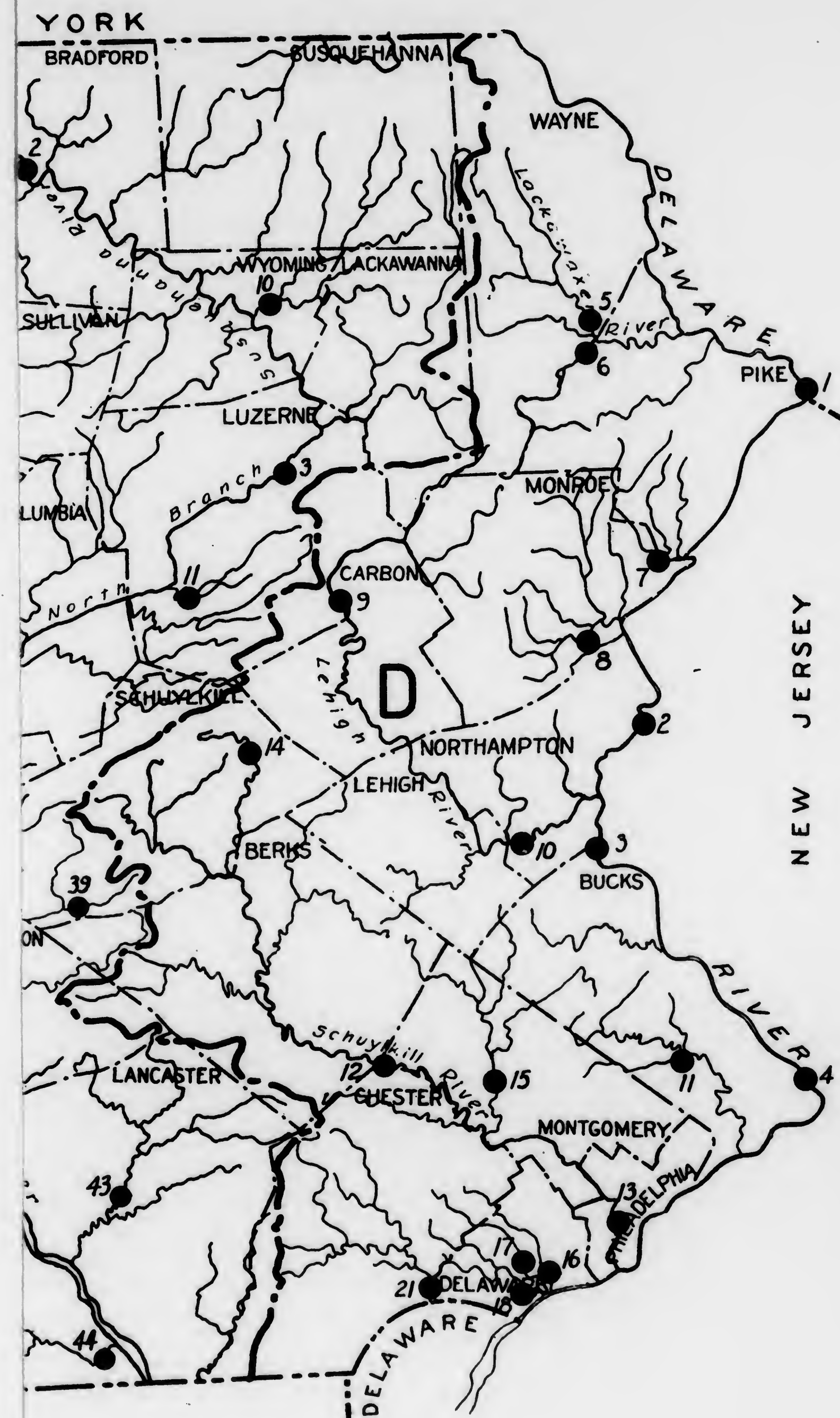


## GAGING STATIONS IN OHIO RIVER BASIN \*

Station No.	Stream	Location
1	Allegheny River .....	Larabee
2	Allegheny River .....	Franklin
3	Allegheny River .....	Parkers Landing
4	Ohio River .....	Sewickley
5	Brokenstraw Creek .....	Youngsville
6	Tionesta Creek .....	Nebraska
7	Oil Creek .....	Rouseville
8	French Creek .....	Carters Corners
9	French Creek .....	Saegertown
10	French Creek .....	Utica
11	Cussewago Creek .....	Meadville
12	Sugar Creek .....	Sugarcreek
13	Clarion River .....	Piney
14	Redbank Creek .....	St. Charles
15	Mahoning Creek .....	Dayton
16	Crooked Creek .....	Ford City
17	Stony Creek .....	Johnstown
18	Kiskiminitas River .....	Avonmore
19	Kiskiminitas River .....	Vandergrift
20	Blacklick Creek .....	Blacklick
21	Loyalhanna Creek .....	New Alexandria
22	Monongahela River .....	Charleroi
23	South Fork of Tenmile Creek .....	Jefferson
24	Youghiogheny River .....	Connellsville
25	Youghiogheny River .....	Sutersville
26	Casselman River .....	Markleton
27	Big Piney Run .....	Salisbury
28	Laurel Hill Creek .....	Ursina
29	Turtle Creek .....	Trafford
30	Chartiers Creek .....	Carnegie
31	Beaver River .....	Wampum
32	Pymatuning Reservoir .....	Pymatuning Dam
33	Shenango River .....	Pymatuning Dam
34	Shenango River .....	Jamestown
35	Shenango River .....	Sharon
36	Shenango River .....	New Castle
37	Sugar Run .....	Pymatuning Dam
38	Little Shenango River .....	Greenville
39	Pymatuning Creek .....	Orangeville
40	Connoquenessing Creek .....	Hazen
41	Slippery Rock Creek .....	Wurtemburg

\* For information available on each station, see description of station.

## GAGING STATIONS



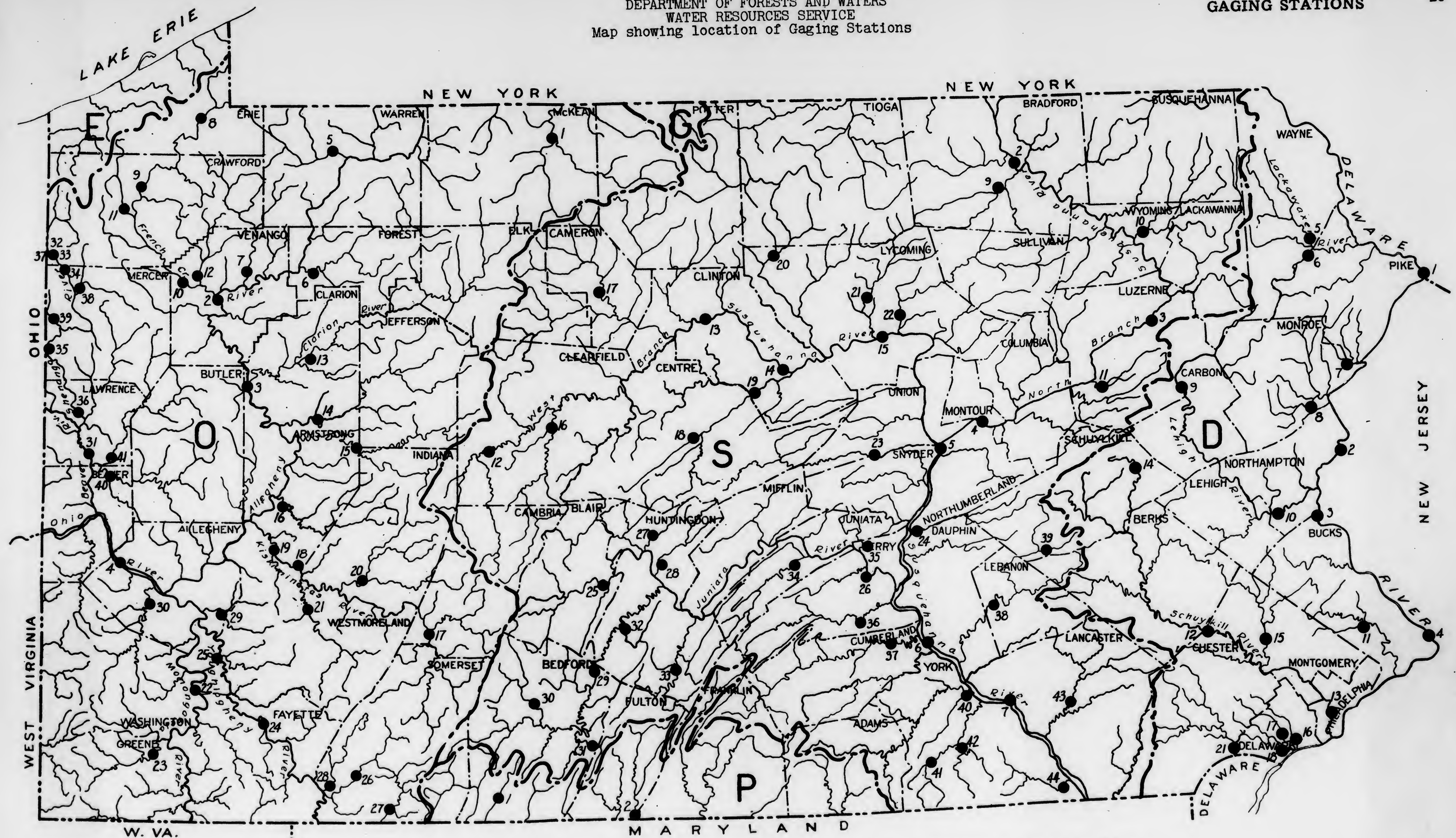
Erie; O, Ohio.



DEPARTMENT OF FORESTS AND WATERS  
WATER RESOURCES SERVICE  
Map showing location of Gaging Stations

GAGING STATIONS

23



Legend to Drainage Basins.- D, Delaware; S, Susquehanna; P, Potomac; G, Genesee; E, Erie; O, Ohio.



**GAGING-STATION RECORDS**

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**DELAWARE RIVER BASIN**

## Delaware River at Port Jervis, N. Y.

Location.- Water-stage recorder near highway bridge at Port Jervis, Orange County, 1½ miles above mouth of Neversink River. Zero of gage is 415.605 feet above mean sea level.

Drainage area.- 3,076 square miles (revised).

Records available.- October 1904 to September 1934.

Average discharge.- 29 years (1905-34), 5,513 second-feet.

Extremes.- Maximum discharge during year, 84,800 second-feet Mar. 6 (gage height, 14.94 feet); maximum recorded gage height, 15.41 feet Mar. 5; minimum discharge, 440 second-feet July 23 (gage height, 1.12 feet); minimum daily discharge, 750 second-feet, July 23.

1904-34: Maximum discharge, 92,700 second-feet Mar. 28, 1914 (gage height, 16.0 feet); minimum, 175 second-feet Sept. 22, and 23, 1908 (gage height, 0.60 foot); minimum daily discharge, 175 second-feet, Sept. 22-23, 1908.

Maximum discharge known, about 155,000 second-feet Oct. 10-11, 1903 (gage height, 23.3 feet).

Remarks.- Records excellent except those for periods of ice effect, Dec. 12-18, Dec. 26 to Jan. 2, Jan. 29 to Feb. 3, Feb. 6 to Mar. 5, which are fair. Large diurnal fluctuation at medium and low stages owing to operation of power plants on tributary streams. Flow considerably regulated by storage in Wallenpaupack, Toronto, and Swinging Bridge Reservoirs; combined capacity 12,200,000,000 cubic feet. Records of storage in Wallenpaupack Reservoir furnished by Pennsylvania Power & Light Co., those for Toronto and Swinging Bridge Reservoirs furnished by Chas. H. Tenney & Co.

Daily and monthly discharge, in second-feet, 1933-34

Daily and monthly discharge, in second feet, 1907.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,700	4,230	3,480	3,600	3,400	1,300	12,700	4,150	2,130	1,800	3,650	2,020
2	2,600	3,970	3,690	15,000	3,200	1,500	17,300	3,680	1,910	1,200	2,310	1,460
3	2,930	3,790	3,530	13,100	3,200	2,400	14,300	4,040	1,440	1,400	2,470	1,240
4	2,720	3,240	3,980	9,460	3,040	6,000	13,600	5,460	1,870	1,680	2,160	1,400
5	2,780	2,990	5,380	7,910	3,270	20,000	14,600	6,470	2,520	1,120	1,930	2,060
6	2,620	3,220	5,760	7,440	3,200	35,500	13,100	5,830	2,100	1,200	1,640	1,990
7	2,550	3,570	5,220	9,240	3,400	15,000	15,700	5,550	1,730	940	1,570	2,160
8	2,310	3,950	5,060	15,400	3,200	9,860	13,200	4,990	1,440	1,020	1,720	2,490
9	2,050	3,910	5,020	15,600	2,900	7,360	11,000	4,110	1,240	1,410	1,260	6,910
10	2,680	3,880	3,930	11,600	2,900	5,100	9,910	3,960	1,020	1,310	1,400	6,340
11	2,600	3,170	2,530	9,900	3,000	4,460	8,920	5,580	1,200	1,170	1,670	4,270
12	2,500	2,900	2,600	8,480	2,600	4,120	17,700	6,100	1,310	1,060	976	3,140
13	2,260	3,070	2,800	7,340	2,400	4,310	20,800	4,720	1,410	979	1,160	2,700
14	2,290	4,140	3,000	6,420	2,600	4,810	15,000	4,410	1,320	1,400	1,120	2,820
15	1,850	5,080	3,400	6,190	3,000	4,360	12,700	4,470	1,440	1,380	1,120	5,400
16	1,680	4,670	4,000	5,520	3,000	4,050	11,700	4,080	1,130	1,450	1,770	8,680
17	2,610	3,720	4,400	4,930	2,800	4,040	14,500	3,820	926	1,250	1,740	15,500
18	3,320	4,000	6,500	4,130	2,400	4,530	14,000	3,350	986	1,040	1,220	18,600
19	3,730	3,780	7,430	3,380	1,800	5,240	11,700	2,860	2,510	1,000	1,100	11,100
20	3,090	3,370	6,420	3,240	1,500	5,220	11,700	2,640	5,040	1,570	1,100	7,900
21	2,450	3,620	5,890	3,490	2,400	4,660	10,700	2,710	5,110	1,480	1,530	6,100
22	2,530	3,560	5,600	3,390	2,400	4,470	8,910	2,960	3,310	796	1,310	4,960
23	2,360	5,350	5,400	3,740	2,600	4,020	7,840	3,520	2,450	750	990	4,040
24	4,180	5,880	4,770	4,420	2,200	3,050	7,440	3,220	1,850	1,320	1,060	5,150
25	8,400	5,320	5,470	5,700	1,900	2,590	7,710	3,370	1,870	1,110	2,440	5,020
26	11,200	4,420	8,000	4,530	1,500	3,070	6,660	3,620	2,240	1,200	2,920	3,320
27	7,560	4,360	6,000	4,150	1,300	3,570	6,070	2,660	1,620	907	2,500	3,440
28	6,110	4,900	4,400	3,790	1,200	9,750	5,180	2,770	1,560	9,040	2,760	3,210
29	5,140	4,350	3,400	3,900		11,100	4,490	2,650	1,540	16,800	2,420	3,270
30	4,680	3,880	3,200	3,400		8,060	4,340	2,190	1,490	7,640	2,000	14,000
31	4,540		3,400	3,200		8,100		2,040		5,000	2,420	
Month	Observed			Storage Correction sec.-ft.	Observed							
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches					
October	11,200	1,680	3,581	-486								
November	5,880	2,990	4,006	-662								
December	8,000	2,530	4,631	-449								
January	15,600	3,200	6,922	+145								
February	3,400	1,200	2,575	-700								
March	35,500	1,300	6,826	-12								
April	20,800	4,340	11,450	+917								
May	6,470	2,040	3,931	+159								
June	5,110	926	1,924	-225								
July	16,900	750	2,304	-15								
August	3,650	976	1,804	-413								
September	18,600	1,240	5,373	+198								
The year	35,500	750	4,607	-126		1.50	20.34					

## Delaware River at Belvidere, N. J.

Location.- Water-stage recorder at Belvidere, Warren County, just below mouth of Pequest River.

Drainage area.- 4,540 square miles.

Records available.- October 1922 to September 1934.

Average discharge.- 12 years, 7,704 second-feet, corrected for storage.

Extremes.- Maximum discharge during year, about 92,900 second-feet Mar. 6 (gage height, 17.22 feet); minimum 1,140 second-feet July 24 (gage height, 2.74 feet).

1922-34: Maximum discharge, about 125,000 second-feet Aug. 25, 1933 (gage height, 19.90 feet); minimum, 838 second-feet Sept. 28, 1932 (gage height, 2.37 feet).

Maximum stage known, 28.6 feet, from authentic high-water mark, in October 1903.

Remarks.- Records excellent except those above 60,000 second-feet, those for periods of ice effect, Dec. 12-17, 27-31, Jan. 30, 31, Feb. 3-10, 14, 25, 26, Feb. 28 to Mar. 1, and those estimated, July 10-14, which are fair. Part of table of monthly discharge corrected for effect of storage on Wallenpaupack Creek and in Toronto and Swinging Bridge Reservoirs on Mongaup River.

Daily and monthly discharge, in second-feet, 1933-34

Daily and monthly discharge, in second feet.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,080	5,890	4,820	5,750	5,080	2,160	15,900	7,440	4,180	2,540	5,620	2,830
2	4,950	5,480	4,820	8,270	4,820	2,440	23,300	6,940	4,060	2,630	4,300	2,340
3	4,820	5,340	4,820	17,400	4,820	3,140	20,500	7,100	3,580	2,120	3,820	1,970
4	4,820	5,080	4,560	10,800	4,320	5,480	13,900	8,860	3,040	2,440	3,360	1,820
5	4,560	4,560	5,480	9,620	4,320	12,900	18,900	10,800	3,700	2,540	2,940	1,970
6	4,560	4,300	6,780	10,200	4,560	55,000	17,900	10,200	3,940	1,970	2,630	2,540
7	4,300	4,320	6,620	11,900	4,690	25,200	18,900	8,860	3,470	1,980	2,250	2,540
8	4,060	5,210	6,320	18,400	4,300	15,500	18,900	8,500	3,140	1,980	2,250	3,540
9	3,320	5,340	6,030	23,300	3,820	11,400	15,900	7,440	2,730	2,070	2,250	6,620
10	3,700	5,340	5,750	18,900	3,940	8,680	14,100	6,940	2,630	2,160	1,850	9,620
11	4,060	5,080	4,180	15,000	3,940	6,940	13,200	9,430	2,630	2,070	2,070	7,270
12	3,940	4,430	2,730	13,200	3,470	5,750	19,500	10,600	2,630	1,930	2,180	5,340
13	3,700	4,180	3,040	11,400	3,360	6,030	30,800	9,240	2,830	1,820	1,720	4,180
14	3,580	4,690	3,470	10,600	3,470	6,470	23,300	7,610	2,730	1,900	1,970	3,700
15	3,360	5,620	3,940	9,430	3,940	6,620	18,900	7,960	2,540	2,250	1,790	4,320
16	3,040	6,180	4,430	8,860	3,820	6,180	16,900	8,320	2,540	2,630	1,740	10,100
17	3,480	5,210	5,210	7,960	3,700	6,030	13,400	7,270	2,180	2,340	2,440	14,800
18	5,340	4,320	6,180	6,620	3,250	6,320	19,900	6,620	1,880	1,970	2,340	26,200
19	5,750	5,210	9,430	5,890	2,730	6,940	21,600	6,030	4,220	1,720	1,880	17,400
20	5,480	4,690	8,860	5,340	2,340	7,440	16,400	5,340	7,960	1,600	1,650	12,300
21	4,430	4,320	8,140	5,210	3,250	6,940	16,400	5,030	8,860	2,070	1,650	9,430
22	4,060	4,320	8,140	5,210	3,250	6,620	14,100	5,080	6,620	2,040	1,930	7,780
23	3,820	4,950	7,610	6,320	3,360	5,990	12,300	6,180	5,080	1,420	1,840	6,780
24	4,530	6,940	7,100	6,780	2,940	5,480	11,400	6,180	3,940	1,260	1,560	5,890
25	6,940	6,780	6,780	7,270	2,630	4,300	13,200	6,030	3,250	1,820	1,770	7,100
26	13,200	6,180	8,320	7,610	2,250	4,180	12,300	7,610	3,250	1,710	3,360	6,320
27	11,000	5,340	7,960	6,320	2,000	5,340	11,000	6,470	3,360	1,720	3,580	5,340
28	8,500	5,890	5,340	6,180	1,980	8,510	10,000	5,620	2,940	1,310	3,250	4,320
29	7,270	5,750	4,300	5,750		17,900	8,500	5,340	2,830	19,800	3,250	4,950
30	6,470	5,480	4,060	4,820		12,300	7,610	5,080	2,630	12,500	2,940	10,300
31	6,030		4,430	4,820		11,400		4,430		7,610	2,630	
Corrected for storage												
Month	Observed			Mean	Mean	Per square mile	Run-off in inches					
	Maximum	Minimum	Mean									
October	13,200	3,040	5,247	4,761	1.05	1.21						
November	6,940	4,180	5,281	4,619	1.02	1.14						
December	9,430	2,730	5,795	5,346	1.18	1.36						
January	23,300	4,820	9,520	9,665	2.13	2.46						
February	5,080	1,980	3,620	2,919	.643	.67						
March	55,000	2,160	9,545	9,532	2.10	2.42						
April	30,800	7,610	16,650	17,560	3.97	4.32						
May	10,800	4,430	7,245	7,404	1.63	1.88						
June	8,860	1,880	3,646	3,421	.754	.84						
July	19,800	1,260	3,110	3,095	.682	.79						
August	5,620	1,560	2,539	2,126	.468	.54						
September	26,200	1,320	7,020	7,218	1.59	1.77						
The year	55,000	1,260	6,609	6,483	1.43	19.40						



## Delaware River at Riegelsville, N. J.

**Location.**— Water-stage recorder at suspension bridge at Riegelsville, Warren County, 600 feet above mouth of Musconetcong River flow of which is included in records subsequent to Oct. 1, 1931.

**Drainage area.**— 6,340 square miles (includes drainage area of Musconetcong River).

**Records available.**— July 1906 to September 1934.

**Average discharge.**— 28 years, 10,750 second-feet, corrected for diversion and storage.

**Extremes.**— Maximum discharge during year, about 84,100 second-feet Mar. 6 (gage height, 18.20 feet); minimum, not including flow in Delaware Division Canal, 1,970 second-feet July 24 (gage height, 2.29 feet).

1906-34: Maximum discharge, about 144,000 second-feet Mar. 28, 1913 (gage height, 25 feet); minimum, not including flow in canal, 870 second-feet Sept. 20, 1908 (gage height, 1.55 feet).

Maximum stage known, 35.9 feet, from authentic high-water marks, Oct. 10, 11, 1903 (discharge, about 275,000 second-feet).

**Remarks.**— Records good except those above 30,000 second-feet, those for periods of ice effect, Dec. 30, Feb. 25 to Mar. 1, and those for periods intake to recorder was partly stopped, Apr. 27 to July 28, which are fair. Part of table of monthly discharge corrected for diversion in Delaware Division Canal and for effect of storage on Wallenpaupack Creek, in Swinging Bridge and Toronto Reservoirs on Mongaup River, and in Lake Hopatcong.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,150	8,150	6,540	7,490	6,850	3,760	27,500	10,500	6,540	4,010	7,330	3,510
2	8,150	7,660	6,230	8,480	7,490	4,140	33,600	9,840	6,230	4,010	5,760	3,160
3	7,490	7,330	6,230	20,200	7,010	5,900	30,500	9,840	5,760	3,390	4,960	2,730
4	7,170	7,170	6,230	14,600	7,010	13,100	27,500	13,500	5,160	3,630	4,560	2,630
5	7,010	6,580	6,540	12,700	7,010	22,000	27,500	15,300	5,460	4,010	4,010	2,630
6	6,850	6,230	8,150	13,900	6,540	57,200	26,000	14,600	6,090	3,280	3,630	3,160
7	6,850	6,380	8,480	17,100	6,850	34,100	26,000	13,100	5,160	3,280	3,160	3,160
8	6,540	7,010	7,820	22,500	6,540	21,600	27,500	12,400	4,710	3,880	2,340	5,980
9	6,380	7,170	7,660	32,600	5,760	15,800	23,000	10,900	4,280	3,380	3,280	9,500
10	5,610	7,330	7,170	28,000	5,160	12,400	20,700	10,200	3,880	3,510	2,730	13,100
11	6,230	7,170	5,920	22,100	5,610	9,840	19,300	13,500	5,610	3,390	2,730	9,940
12	5,920	6,380	3,880	19,300	5,610	8,150	25,500	15,000	5,010	3,160	3,390	7,490
13	5,920	6,230	4,280	16,700	5,460	8,150	37,500	13,100	4,560	2,940	3,390	5,920
14	5,310	6,230	5,010	15,800	5,010	9,160	33,100	11,600	4,420	2,840	3,160	5,160
15	5,310	7,490	5,010	13,900	5,610	9,160	27,000	11,200	4,010	3,390	2,940	6,700
16	4,710	8,150	5,610	13,100	5,610	8,820	24,500	13,100	3,630	3,980	2,840	11,600
17	5,160	7,170	7,330	11,600	5,160	8,480	28,000	11,200	3,390	3,630	3,050	23,500
18	9,160	6,700	8,150	9,500	4,710	8,220	27,500	10,200	2,940	3,050	3,390	34,700
19	8,820	6,850	10,900	9,160	4,420	9,500	24,000	9,160	5,920	2,730	2,730	25,000
20	8,150	6,700	11,200	8,150	3,760	9,840	23,500	8,480	13,900	2,530	2,730	17,100
21	7,330	6,230	10,900	7,820	4,010	9,500	23,500	7,820	13,100	2,940	2,440	13,100
22	6,090	6,540	10,900	7,820	4,710	3,820	21,100	7,490	10,500	3,160	2,630	10,900
23	6,580	6,700	10,200	9,500	5,010	8,150	13,400	9,500	8,320	2,340	2,630	9,500
24	6,540	8,480	9,500	11,600	4,010	7,490	15,700	10,200	6,850	2,060	2,440	8,490
25	9,500	8,820	8,820	10,900	3,630	6,540	18,900	8,820	5,610	2,630	2,530	9,160
26	15,400	8,150	10,200	11,200	3,390	6,230	13,900	11,600	4,860	3,050	3,760	8,490
27	15,000	7,330	11,200	9,840	3,390	6,700	16,300	10,900	5,160	2,730	4,560	7,330
28	11,600	7,330	7,820	9,160	3,390	12,000	14,600	9,160	4,710	2,530	3,980	6,850
29	10,200	7,660	6,380	8,820		23,000	12,700	8,150	4,560	14,800	4,140	7,330
30	9,160	7,010	5,610	6,700		18,000	11,600	7,820	4,140	16,400	3,980	17,500
31	8,480		5,760	6,850		15,800		7,330		9,840	3,050	
Month	Observed			Corrected for diversion and storage								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October	15,400	4,710	7,760	7,268	1.15	1.33						
November	8,320	6,230	7,138	6,466	1.02	1.14						
December	11,200	3,980	7,601	7,145	1.13	1.30						
January	32,600	6,700	13,680	13,830	2.19	2.51						
February	7,490	3,390	5,311	4,599	.725	.76						
March	57,200	3,760	12,970	13,020	2.05	2.36						
April	37,500	11,600	23,670	24,640	3.89	4.34						
May	15,900	7,330	10,940	11,060	1.74	2.01						
June	13,900	2,940	5,832	5,663	.993	1.00						
July	16,400	2,060	4,216	4,245	.670	.77						
August	7,330	2,440	3,514	3,148	.497	.57						
September	34,700	2,630	9,937	10,080	1.59	1.77						
The year	57,200	2,060	9,373	9,275	1.46	19.36						

## Delaware River at Trenton, N. J.

**Location.**— Water-stage recorder 200 feet above Calhoun Street Bridge, at Trenton, Mercer County, half a mile above mouth of Assunpink Creek. Zero of gage is 7.46 feet above mean sea level.

**Drainage area.**— 6,800 square miles.

**Records available.**— February 1913 to September 1934.

**Average discharge.**— 21 years, 11,250 second-feet, corrected for diversions and storage.

**Extremes.**— Maximum discharge during year, 80,000 second-feet Mar. 6; maximum gage height 14.2 feet Mar. 5 owing to ice jam; minimum discharge, 2,170 second-feet July 25 (gage height, 0.05 foot). Flow in canals not included.

1913-34: Maximum discharge, about 160,000 second-feet Mar. 28, 29, 1913; maximum gage height, that of Mar. 5, 1934; minimum discharge, 1,220 second-feet Sept. 18, 19, 1932. Flow in canals not included.

**Remarks.**— Records good except those for periods of ice effect, Dec. 13-18, Dec. 28 to Jan. 7, Jan. 30 to Mar. 6, which are fair. Part of monthly table corrected for diversions in Delaware Division Canal, Trenton Power Race, and Delaware & Raritan Canal, and for effect of storage in reservoir on Wallenpaupack Creek, Swinging Bridge and Toronto Reservoirs on Mongaup River, and in Lake Hopatcong.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,460	8,560	6,970	8,860	7,220	4,010	29,500	11,600	6,740	4,180	8,560	3,540
2	9,770	8,280	6,280	11,000	8,000	5,080	34,500	11,000	6,500	4,040	6,740	3,740
3	8,860	7,740	6,500	23,900	7,470	7,470	32,500	12,200	6,060	4,110	5,460	3,320
4	8,000	7,470	6,500	17,500	7,470	16,500	28,500	16,000	5,460	3,880	4,990	3,070
5	7,740	6,970	6,280	14,600	7,470	30,500	28,500	17,100	5,080	3,980	4,530	2,910
6	7,470	6,740	7,740	17,500	6,970	64,800	27,500	16,700	5,650	3,980	3,910	2,970
7	7,220	6,500	8,860	22,100	7,740	42,600	25,700	14,600	5,650	3,320	3,610	3,770
8	6,970	7,220	8,560	33,500	6,970	25,700	28,500	12,800	5,080	3,770	3,190	11,400
9	6,500	7,470	8,280	33,500	6,500	17,900	24,800	11,900	4,710	4,010	3,100	12,800
10	6,280	7,470	7,740	31,500	5,260	13,800	22,100	11,000	4,360	3,940	3,410	13,500
11	6,280	7,470	6,970	23,900	5,860	11,600	20,300	11,900	4,710	3,680	2,850	12,200
12	6,280	6,970	5,460	20,800	6,060	9,770	24,900	15,200	5,460	3,410	3,070	9,150
13	6,280	6,500	4,710	18,500	5,860	8,560	36,600	14,600	5,080	3,290	4,550	6,970
14	5,860	6,060	5,080	17,500	5,650	10,100	34,500	12,500	4,890	3,040	3,310	5,860
15	5,650	6,970	5,650	15,600	6,060	10,400	28,500	11,900	4,530	3,040	3,380	6,060
16	5,260	7,740	6,500	14,800	6,060	10,100	25,700	13,200	4,110	3,870	3,100	10,100
17	5,260	8,280	7,740	12,800	5,650	9,460	27,500	12,500	3,910	4,080	3,000	23,300
18	8,750	6,970	8,860	11,000	5,260	9,460	28,500	11,000	3,610	3,580	3,410	34,200
19	9,460	6,740	9,770	9,000	4,890	10,100	25,700	10,100	4,710	3,130	3,450	30,000
20	9,150	7,220	12,800	9,150	4,180	10,700	23,900	9,150	13,200	2,820	2,850	20,300
21	8,280	6,280	12,200	8,280	4,010	10,400	24,800	8,280	14,200	2,670	2,730	15,600
22	6,740	6,500	11,300	8,860	5,080	9,460	22,100	8,280	12,500	2,940	2,520	12,800
23	6,740	6,500	11,300	8,860	5,460	9,150	19,100	8,860	11,000	3,070	2,760	11,300
24	6,280	7,220	10,400	11,900	4,530	8,280	17,500	9,770	8,000	2,470	2,730	10,400
25	8,280	9,150	9,770	11,300	4,010	7,470	18,700	9,460	6,280	2,250	2,520	9,460
26	13,000	8,560	9,770	11,600	3,840	6,280	19,900	11,300	5,460	2,700	2,730	9,770
27	17,100	8,000	11,900	11,000	3,680	6,500	17,500	12,200	5,260	2,940	4,360	8,560
28	13,500	7,220	10,400	9,770	3,680	15,600	16,000	10,100	5,080	2,790	4,530	7,470
29	11,300	8,000	8,280	9,770		22,100	14,200	8,560	4,890	9,070	4,180	6,970
30	10,100	7,470	6,970	7,220		21,200	12,500	8,000	4,530	20,900	4,180	22,200
31	9,150		7,220	6,740		17,900		7,740		12,000	3,870	
Observed												
Month	Observed			Corrected for diversion and storage								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October	17,100	5,260	8,289	7,827	1.15	1.33						
November	9,150	6,060	7,541	6,855	1.01	1.13						
December	12,800	4,710	8,283	8,037	1.18	1.36						
January	33,500	6,470	15,210	15,540	2.29	2.64						
February	8,000	3,680	5,748	5,214	.767	.90						
March	64,800	4,010	14,930	15,190	2.23	2.57						
April	36,500	12,500	24,680	25,840	3.80	4.24						
May	17,100	7,740	11,590	11,930	1.75	2.02						
June	14,200	3,610	6,223	6,214	.914	1.02						
July	20,900	2,250	4,411	4,600	.676	.78						
August	8,560	2,520	3,305	3,589	.628	.61						
September	34,200	2,910	11,120	11,520	1.69	1.89						
The year	64,800	2,250	10,150	10,210	1.50	20.39						



## Lackawaxen River at West Hawley, Pa.

**Location.**- Chain gage at Riverside Bridge, West Hawley, Wayne County, half a mile above mouth of Middle Creek.  
**Drainage area.**- 206 square miles (revised).  
**Records available.**- October 1931 to September 1934 in reports of U. S. Geological Survey; May 1921 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Average discharge.**- 10 years (1924-34), 349 second-feet.  
**Extremes.**- Maximum discharge recorded during year, about 5,450 second-feet July 28 (gage height, 8.75 feet); minimum, 23 second-feet July 23, 24 (gage height, 0.92 foot).  
 1921-34: Maximum discharge, about 7,430 second-feet Aug. 24, 1933 (gage height, 11.0 feet, from graph based on gage readings); minimum, 15 second-feet Sept. 2, 3, 1929 (gage height, 0.74 foot).  
**Remarks.**- Records good except those estimated for periods of ice effect, Dec. 10-17, 30, 31, Jan. 30 to Mar. 4, which are fair. Some regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	129	208	183	845	220	95	1,200	170	66	70	273	65
2	121	202	173	930	200	110	990	167	61	66	212	72
3	108	179	173	757	180	150	813	330	54	66	199	51
4	102	170	292	560	160	780	1,290	583	236	77	189	75
5	102	143	273	451	145	2,050	1,090	430	123	83	149	108
6	88	183	262	451	130	1,440	927	349	100	70	105	92
7	86	208	252	1,120	120	780	1,080	273	77	56	102	83
8	88	228	215	1,540	110	430	813	205	58	98	81	823
9	115	228	176	892	100	349	654	176	53	70	72	874
10	126	222	160	654	95	292	538	208	68	58	72	494
11	100	202	150	515	100	245	794	330	70	44	70	330
12	81	183	145	451	100	228	2,000	238	63	37	68	245
13	88	202	145	410	100	225	1,050	195	66	39	70	218
14	81	310	145	369	100	225	757	176	63	37	60	286
15	72	266	155	330	105	215	630	173	54	48	65	1,460
16	79	245	180	292	105	202	630	176	48	50	79	1,000
17	132	225	320	266	100	222	871	158	54	41	118	2,660
18	322	195	1,030	242	100	330	630	140	66	37	92	1,160
19	410	192	894	231	105	262	515	132	484	36	81	757
20	192	189	583	208	100	225	606	115	512	35	79	538
21	123	195	472	222	105	202	515	110	259	30	60	430
22	115	238	430	205	110	208	389	110	164	26	53	369
23	337	349	451	238	100	173	369	115	155	24	72	330
24	359	273	483	292	95	158	330	102	126	26	161	369
25	945	262	788	310	90	164	310	102	105	32	115	349
26	487	259	583	292	90	149	273	146	90	33	77	292
27	369	256	451	270	90	202	262	126	121	310	83	266
28	310	245	389	270	90	735	228	105	108	3,560	86	248
29	266	228	349	273		538	212	88	83	1,790	112	460
30	262	205	340	260		430	183	81	75	538	92	1,860
31	231		550	240		421		66		330	68	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October.....	945	72	207	1.00	1.15							
November.....	349	143	223	1.08	1.20							
December.....	1,030	145	355	1.72	1.98							
January.....	1,540	205	464	2.25	2.59							
February.....	220	90	116	.563	.59							
March.....	2,050	95	395	1.92	2.21							
April.....	2,000	183	698	3.39	3.78							
May.....	583	66	190	.922	1.06							
June.....	512	48	122	.592	.66							
July.....	3,560	24	252	1.22	1.41							
August.....	273	53	104	.505	.58							
September.....	2,660	51	545	2.65	2.96							
The year.....	3,560	24	306	1.49	20.17							

## Wallenpaupack Creek at Wilsonville, Pa.

**Location.**- At hydroelectric plant of Pennsylvania Power & Light Co. with dam at Wilsonville, 1½ miles south of Hawley, Wayne County.  
**Drainage area.**- 228 square miles (revised).  
**Records available.**- October 1918 to September 1921, June 1926 to September 1934 in reports of U. S. Geological Survey; July 1908 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Average discharge.**- 18 years (1913-22, 1925-34), 378 second-feet.  
**Remarks.**- Records good. Flow computed from output of generators. No discharge over spillway during year. Daily discharge not corrected for storage. No corrections made for evaporation from Wallenpaupack Reservoir. Discharge measurements, records of power-plant operations, and water-surface elevations in reservoir and tailrace furnished by Pennsylvania Power & Light Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	428	270	243	923	522	0	303	331	22	48	201
2	329	566	412	717	827	563	88	288	0	196	0	157
3	556	445	0	464	378	518	405	354	0	778	0	170
4	600	223	827	450	159	0	595	221	805	0	0	761
5	699	0	971	449	897	363	328	96	594	36	0	782
6	667	795	928	178	970	601	409	0	302	0	0	844
7	539	860	694	123	892	522	186	471	129	0	545	842
8	0	734	723	445	697	574	0	273	94	0	127	9.8
9	793	838	844	465	609	365	229	118	0	24	169	0
10	753	658	0	466	230	196	319	80	0	44	593	301
11	778	299	713	441	0	25	572	260	46	0	0	129
12	474	0	970	465	245	494	309	63	57	0	0	170
13	888	936	1,020	385	841	614	311	0	0	536	29	384
14	386	868	1,000	107	626	619	108	179	117	0	85	136
15	0	962	1,020	463	522	582	0	417	76	0	512	166
16	862	936	866	479	528	377	441	62	15	68	743	0
17	260	927	160	466	55	104	314	144	0	56	108	67
18	763	978	993	487	0	0	331	132	567	84	0	125
19	676	0	674	475	879	424	398	51	257	550	0	8.3
20	72	550	694	145	893	471	286	0	0	763	417	21
21	829	593	735	0	753	593	68	349	97	213	363	3.5
22	0	599	457	449	105	565	0	555	247	8.3	0	16
23	757	517	314	315	676	617	170	398	0	626	0	0
24	768	647	199	411	349	80	272	294	0	417	537	216
25	376	432	114	349	75	0	449	906	767	479	126	310
26	129	0	538	230	798	748	374	0	155	187	0	142
27	164	568	708	164	597	434	370	0	173	208	782	132
28	302	424	755	149	249	475	39	232	178	0	822	51
29	0	603	790	421		333	0	304	429	0	313	75
30	165	0	804	798		65	346	0	680	549	782	4.2
31	401		237	895		83		209		653	728	
Month		Observed			Corrected for storage							
		Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches					
October.....	888	0	451	136	0.600	0.69						
November.....	978	0	546	86.4	.379	.42						
December.....	1,020	0	627	173	.759	.88						
January.....	895	0	390	507	2.22	2.56						
February.....	970	0	528	4.36	.019	.02						
March.....	748	0	385	265	1.16	1.34						
April.....	595	0	257	799	3.50	3.90						
May.....	906	0	218	318	1.40	1.61						
June.....	805	0	204	105	.461	.51						
July.....	778	0	210	129	.566	.65						
August.....	822	0	253	16.9	.074	.09						
September.....	844	0	207	270	1.18	1.32						
The year.....	1,020	0	355	235	1.03	13.99						



Bushkill Creek at Shoemakers, Pa.

Location.- Chain gage at highway bridge three quarters of a mile northwest of Shoemakers, Monroe County, and 2 miles southwest of Bushkill.

Shoemakers, Monroe County, and 2 miles  
Drainage area.- 117 square miles (revised).

Records available.- October 1918 to September 1920, October 1931 to September 1934 in reports of U. S. Geological Survey; September 1908 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

reports of Pennsylvania Department of Forests and Waters.  
Average discharge.- 22 years (1908-16, 1920-34), 233 second-feet.

Average discharge.- 22 years (1908-16, 1920-34), 233 second-feet.  
Extremes.- Maximum discharge during year, 1,040 second-feet Apr. 12 (gauge height, 8.62 feet); minimum, 17 second-feet Sept. 2, 3 (gauge height, 1.10 feet).

3.82 feet); minimum, 17 second-feet Sept. 2, 3 (gage height, 1.10 feet).  
1908-34: Maximum gage height (estimated), 7.2 feet July 24, 1920  
(discharge not determined); minimum discharge, 4 second-feet Sept. 21, 26, 1932  
(gage height, 0.90 foot).

Remarks.—Records good except those estimated for periods of ice effect, Nov. 17, 18, Dec. 11-21, 28-31, Jan. 19-21, Jan. 31 to Mar. 4, Mar. 9-21, 24-26, which are fair. Some regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171	106	73	200	96	27	578	290	200	75	47	21
2	185	102	73	270	85	35	510	290	182	65	38	18
3	157	97	79	312	75	80	455	358	165	59	44	17
4	141	93	97	270	70	280	540	480	149	65	38	24
5	128	88	97	290	65	809	510	570	139	58	31	29
6	116	104	93	250	55	660	480	480	128	53	24	25
7	104	108	97	492	45	430	570	405	131	49	21	22
8	95	121	93	720	35	335	480	358	114	114	21	116
9	93	116	86	570	30	250	430	312	104	93	21	200
10	88	108	66	510	28	180	405	323	128	73	21	136
11	84	97	60	430	28	150	388	680	118	56	22	95
12	80	93	58	380	29	140	912	540	108	49	21	73
13	77	93	56	358	30	140	780	455	114	49	35	58
14	71	106	55	358	30	145	660	430	93	47	38	49
15	66	102	55	312	32	150	600	480	82	48	31	165
16	63	95	57	290	32	155	600	480	73	70	31	162
17	160	93	62	250	31	160	630	430	65	49	38	612
18	216	90	68	200	31	150	510	358	68	40	33	430
19	165	88	80	190	31	135	450	312	529	37	27	335
20	154	84	100	190	30	140	600	290	455	34	25	250
21	114	84	150	210	31	120	510	233	290	32	20	200
22	99	93	216	270	32	104	455	233	200	29	20	171
23	118	93	200	312	30	91	405	358	165	27	22	149
24	128	93	168	270	28	85	392	290	144	25	43	152
25	216	88	179	233	27	80	696	358	106	29	80	160
26	182	84	171	216	26	78	570	480	91	27	56	139
27	157	84	147	185	25	103	480	380	111	27	40	124
28	147	80	140	185	25	302	430	312	139	59	34	116
29	134	77	140	174		250	380	270	116	139	29	177
30	121	73	145	128		250	335	250	88	91	28	405
31	111		160	115		248		233		60	22	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	216	63	126	1.08	1.24
November.....	121	73	94.4	.807	.90
December.....	216	55	107	.916	1.05
January.....	720	115	296	2.52	2.90
February.....	95	25	39.7	.339	.55
March.....	809	27	202	1.73	1.99
April.....	912	335	524	4.48	5.00
May.....	680	233	378	3.23	3.72
June.....	529	65	153	1.31	1.46
July.....	139	25	55.7	.476	.55
August.....	80	20	32.3	.276	.32
September.....	512	17	161	1.29	1.44
The year.....	912	17	180	1.54	20.92

McMichaels Creek at Stroudsburg, Pa.

Location.- Chain gage at railroad bridge at Wilkes-Barre and Eastern Railroad car shops, three-quarters of a mile southwest of Stroudsburg, Monroe County.

Drainage area.- 64.4 square miles (revised).

Records available.- October 1920 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1911 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years (1911-18, 1920-34), 118 second-feet.

Extremes.- Maximum discharge during year, about 923 second-foot June 19 (gage height, 5.4 feet, from graph based on gage readings); minimum, 18 second-foot Sept. 3, 6 (gage height, 2.58 feet).

1911-34: Maximum gage height (estimated), 9.4 feet Sept. 4, 1933 (discharge not determined); minimum discharge, 7.2 second-feet Nov. 30, 1930 (gage height, 2.34 feet); minimum daily discharge, 9.0 second-feet Nov. 30, 1930.

Remarks.—Records good except those for high stages and those estimated for periods of ice effect, Dec. 13-21, Dec. 27 to Jan. 6, Jan. 18-22, Jan. 30 to Mar. 3, Mar. 11-15, 22-26, which are fair. Regulation at low stages from operation of power plants upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	59	39	62	64	24	387	147	81	60	37	21
2	144	59	39	70	58	30	269	127	74	53	34	19
3	112	58	41	65	52	170	269	236	70	60	47	18
4	102	59	62	65	47	369	362	205	67	68	35	27
5	100	51	48	75	42	366	252	191	70	53	30	23
6	94	67	47	130	37	136	236	162	62	50	28	20
7	86	72	44	365	32	123	286	150	60	47	26	38
8	85	69	44	388	28	112	205	129	53	104	26	295
9	96	58	42	294	26	121	191	125	53	67	29	124
10	83	59	31	229	25	53	177	124	63	56	26	62
11	79	56	31	188	26	45	191	262	63	49	28	47
12	72	56	30	162	27	42	320	236	62	46	30	42
13	70	56	28	167	27	40	236	191	65	47	45	35
14	66	59	27	176	27	41	220	174	50	47	38	48
15	64	52	27	138	29	42	205	252	46	43	30	184
16	62	40	30	116	28	58	220	191	42	96	35	217
17	172	36	35	112	28	58	220	157	42	47	35	428
18	132	51	40	100	28	60	191	150	48	45	32	220
19	85	56	38	90	27	56	167	134	541	39	28	162
20	72	53	45	80	27	56	236	123	221	38	28	129
21	69	53	55	75	27	55	174	118	136	38	23	112
22	67	56	74	75	27	50	160	114	114	35	24	104
23	69	53	66	170	26	46	150	127	118	37	28	96
24	77	51	67	106	26	45	153	102	92	35	30	88
25	96	48	64	96	25	45	269	157	83	39	29	81
26	72	48	64	88	24	47	236	157	77	37	24	74
27	72	43	60	85	24	111	205	118	74	37	24	70
28	64	41	55	85	23	204	177	104	74	96	24	67
29	62	43	54	81		118	152	96	70	65	23	197
30	66	41	54	77		108	147	98	63	45	23	187
31	61		56	70		129		88		39	21	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					172	61	86.2	1.34		1.54		
November.....					72	36	53.4	.829		.92		
December.....					74	27	46.4	.720		.83		
January.....					388	62	132.	2.05		2.36		
February.....					64	23	31.7	.492		.51		
March.....					369	24	98.1	1.52		1.75		
April.....					387	147	222	2.38		2.74		
May.....					262	88	153	2.38		2.74		
June.....					541	42	91.1	1.41		1.57		
July.....					104	35	52.2	.811		.94		
August.....					47	21	29.7	.461		.53		
September.....					428	18	108	1.68		1.87		
The year.....					541	18	92.1	1.43		19.41		



## Lehigh River at Tannery, Pa.

**Location.**— Water-stage recorder 600 feet above highway bridge at Tannery, Carbon County. Zero of gage is 1,041.98 feet above mean sea level.

**Drainage area.**— 322 square miles.

**Records available.**— October 1919 to September 1921, October 1928 to September 1934 in reports of U. S. Geological Survey; June 1914 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**— 15 years (1914-15, 1919-26, 1927-34), 673 second-feet.

**Extremes.**— Maximum discharge during year, about 3,580 second-feet Apr. 1 (gage height, 5.22 feet); minimum, 78 second-feet July 21 (gage height, 1.71 feet); minimum daily discharge, 115 second-feet July 22.

1914-34: Maximum gage height, about 15.0 feet Nov. 16, 1926, at a site 600 feet downstream (discharge not determined); minimum discharge, 32 second-feet Sept. 25, 1932 (gage height, 1.42 feet); minimum daily discharge, 54 second-feet Nov. 29, 1930.

**Remarks.**— Records fair except those estimated for periods of ice effect, Nov. 16-18, Dec. 10-19, 27-31, Jan. 30 to Mar. 6, Mar. 10-17, 24-27, and for period of missing gage-height record, June 12-17, which are poor. Regulation from operation of power plants upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	564	570	350	664	280	130	3,060	422	348	159	292	140
2	534	519	317	555	240	180	2,060	515	306	146	220	136
3	461	456	335	800	205	400	1,580	717	282	149	221	130
4	446	412	378	611	195	1,100	1,860	986	257	185	196	152
5	424	356	409	674	185	1,250	1,740	888	242	166	170	146
6	398	388	411	848	175	1,200	1,480	661	242	155	147	133
7	390	394	405	1,830	160	860	1,770	586	226	146	136	133
8	376	434	372	2,120	140	624	1,560	531	202	188	130	366
9	378	538	342	1,550	125	461	1,380	464	196	196	127	692
10	342	501	300	1,180	125	390	1,410	550	266	185	150	622
11	305	483	280	984	135	360	1,270	1,040	336	170	170	440
12	309	465	270	840	135	340	2,210	799	270	155	160	342
13	291	459	260	765	135	340	1,840	749	240	152	228	295
14	260	502	260	737	135	350	1,540	685	220	155	192	294
15	273	355	265	674	140	360	1,320	700	190	151	165	510
16	260	335	280	618	145	370	1,140	766	170	183	166	597
17	676	330	320	557	140	400	1,320	677	160	166	170	2,500
18	904	325	375	555	135	440	1,130	594	143	152	154	1,750
19	756	320	425	503	135	358	1,030	531	802	152	152	1,160
20	617	315	477	498	135	364	1,280	484	1,410	152	162	843
21	550	320	513	468	140	326	1,170	446	944	121	146	669
22	491	458	513	444	140	311	1,060	440	631	116	140	558
23	762	525	513	794	140	258	914	484	465	146	172	465
24	948	489	495	906	135	240	812	428	348	133	242	416
25	1,290	453	577	774	130	230	804	502	266	144	351	398
26	1,080	423	508	674	125	230	773	732	217	149	306	364
27	952	441	470	570	120	260	726	623	200	136	248	326
28	840	411	420	564	120	960	686	510	196	575	208	321
29	751	383	405	521		836	688	446	135	818	185	504
30	674	361	400	440		860	552	428	170	579	166	1,870
31	601	410	360	893		893	398	398		414	149	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	1,290	260	578	1.80	2.08							
November	570	315	423	1.31	1.46							
December	577	260	389	1.21	1.40							
January	2,120	360	786	2.44	2.81							
February	280	120	152	.472	.49							
March	1,250	130	506	1.57	1.81							
April	3,060	552	1,339	4.16	4.64							
May	1,040	398	606	1.88	2.17							
June	1,410	143	338	1.05	1.17							
July	818	116	213	.661	.76							
August	531	127	187	.581	.67							
September	2,500	130	575	1.79	2.00							
The year	3,060	116	509	1.58	21.46							

## Lehigh River at Bethlehem, Pa.

**Location.**— Water-stage recorder 1,500 feet above Minsi Trail Bridge, at Bethlehem, Northampton County, and 2,000 feet below Monocacy Creek.

**Drainage area.**— 1,280 square miles.

**Records available.**— September 1902 to February 1905, April 1909 to December 1913, October 1918 to September 1921, October 1928 to September 1934 in reports of U. S. Geological Survey; September 1902 to February 1905, April 1909 to September 1934 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1928 obtained at New Street Bridge 800 feet above Monocacy Creek.

**Extremes.**— Maximum discharge during year, 12,000 second-feet Sept. 17 (gage height, 6.35 feet); minimum, 390 second-feet Aug. 31 (gage height, 2.01 feet); minimum daily discharge, 452 second-feet Sept. 2.

1902-5, 1909-34: Maximum gage height, 18.70 feet Aug. 24, 1933 (discharge not determined); minimum discharge, 160 second-feet Oct. 15, 1910 (gage height, 1.33 feet).

**Remarks.**— Records good except those estimated for periods of plugged intake or missing gage-height record, Oct. 4-25, Mar. 9-12, July 13-16, and those estimated for periods of ice effect, Nov. 18-22, Dec. 11-16, 28-31, Jan. 19-21, Jan. 29 to Mar. 4, which are poor. Regulation from power operations upstream. Daily and monthly records include flow in Lehigh Canal.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,180	1,670	1,140	1,620	1,150	500	9,010	2,300	1,710	1,140	1,040	498
2	1,180	1,610	1,040	2,150	1,000	550	5,980	2,120	1,590	1,120	895	460
3	1,070	1,540	1,040	2,020	900	1,500	5,200	2,480	1,460	1,050	937	470
4	950	1,430	1,200	1,860	850	4,510	5,500	3,530	1,400	1,120	881	593
5	900	1,350	1,230	2,020	800	5,830	5,500	3,530	1,380	1,110	721	591
6	850	1,460	1,230	2,640	750	4,130	4,780	2,780	1,300	1,020	698	525
7	800	1,510	1,210	4,540	700	4,120	4,920	2,510	1,240	1,050	604	585
8	800	1,500	1,170	7,990	650	2,260	4,920	2,430	1,170	1,310	563	2,440
9	750	1,510	1,110	5,800	600	1,700	4,250	2,240	1,080	1,270	594	3,270
10	750	1,540	807	5,060	600	1,200	4,120	2,210	1,190	1,010	596	2,230
11	700	1,430	707	4,120	600	1,100	4,000	3,950	1,560	911	615	1,700
12	700	1,430	653	3,640	650	1,200	6,170	3,200	1,590	901	1,120	1,330
13	650	1,430	657	3,090	650	1,450	5,650	2,780	1,400	867	1,400	1,120
14	600	1,450	657	3,420	600	1,750	4,920	2,790	1,240	880	1,150	1,190
15	550	1,480	706	2,880	650	1,420	4,380	2,880	1,090	869	901	2,160
16	550	1,150	857	2,630	650	1,550	4,250	3,200	986	1,250	803	2,480
17	600	1,030	1,240	2,430	650	1,480	4,640	2,980	945	940	788	9,860
18	1,900	1,010	1,590	1,960	650	1,550	4,600	2,780	971	815	715	6,740
19	1,600	1,010	1,630	1,850	650	1,610	3,640	2,420	3,520	757	655	4,390
20	1,300	1,010	1,530	1,800	600	1,470	4,510	2,270	5,380	735	666	3,320
21	1,150	1,060	1,620	1,800	600	1,390	4,250	2,140	3,540	708	591	2,790
22	1,100	1,160	1,700	1,850	600	1,310	3,760	2,100	2,800	683	570	2,420
23	1,700	1,360	1,560	2,760	600	1,230	3,530	2,230	2,630	640	570	2,290
24	2,100	1,370	1,530	3,310	550	1,080	3,310	1,970	2,060	624	634	2,020
25	2,600	1,290	1,530	2,780	500	1,080	4,380	2,140	1,780	660	807	1,790
26	2,420	1,240	1,620	2,570	500	1,290	3,760	2,780	1,540	986	820	1,670
27	2,310	1,310	1,210	2,300	500	1,260	3,310	2,470	1,410	754	728	1,540
28	2,110	1,340	1,050	2,230	500	3,580	3,090	2,190	1,560	1,030	654	1,480
29	1,950	1,220	953	2,000		2,980	2,670	1,980	1,390	1,970	628	2,160
30	1,910	1,110	907	1,500		2,670	2,550	1,910	1,230	1,560	572	6,230
31	1,760		962	1,300		2,840		1,830		1,260	501	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					2,600	550	1,274	0.995		1.15		
November					1,670	1,010	1,334	1.04		1.16		
December					1,700	653	1,163	.909		1.05		
January					7,990	1,300	2,836	2.22		2.56		
February					1,150	500	668	.522		.54		
March					5,830	500	1,980	1.55		1.79		
April					9,010	2,550	4,518	3.53		3.94		
May					3,950	1,830	2,552	1.99		2.29		
June					5,580	945	1,738	1.36		1.52		
July					1,970	624	1,000	.781		.90		
August					1,400	501	755	.590		.68		
September					9,850	460	2,344	1.83		2.04		
The year					9,850	460	1,850	1.45		19.62		







## Schuylkill River at Pottstown, Pa.

**Location.**- Water-stage recorder at Hanover Street Bridge, at Pottstown, Montgomery County. Zero of gage is 117.81 feet above mean sea level.

**Drainage area.**- 1,147 square miles (revised).

**Records available.**- October 1931 to September 1934 in reports of U. S. Geological Survey; August 1927 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Extremes.**- Maximum discharge during year, about 21,600 second-feet Sept. 30 (gage height, 11.59 feet); minimum recorded, 386 second-feet Sept. 3 (gage height, 1.11 feet).

1927-34: Maximum gage height, 19.2 feet Aug. 24, 1933 (discharge not determined); minimum discharge, 87 second-feet Aug. 13, 1930 (gage height, 0.43 foot); minimum daily discharge, 175 second-feet Sept. 19, 1932.

**Remarks.**- Records good except those prior to Apr. 1, which are fair, and those for extremely high stages and those estimated for periods of ice effect, Dec. 11-18, Dec. 28 to Jan. 5, Jan. 31 to Mar. 4, which are poor. Discharge based on chain gage readings Dec. 22-27, Aug. 3-6. Some regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	856	622	700	900	420	11,900	1,330	1,170	763	612	472
2	1,820	847	593	1,500	850	500	7,830	1,720	1,110	731	633	453
3	1,540	820	585	1,300	800	1,500	5,490	2,940	956	670	800	445
4	1,310	820	629	1,300	750	5,500	4,710	3,560	948	708	700	550
5	1,240	778	690	2,000	700	6,500	4,160	2,760	922	763	600	557
6	1,230	910	682	3,060	650	3,730	3,390	2,270	931	692	550	548
7	1,160	995	644	4,880	600	2,400	3,390	1,950	1,020	890	486	658
8	1,130	966	651	7,110	550	1,820	3,230	2,140	922	3,020	505	3,860
9	1,060	864	614	5,300	500	1,500	2,760	1,830	829	1,150	453	3,160
10	1,040	838	571	4,080	500	1,450	2,550	1,660	820	838	550	1,530
11	1,010	786	500	3,300	500	1,220	2,810	1,830	922	708	714	1,340
12	986	770	460	2,760	550	1,190	5,800	2,010	1,070	655	984	1,130
13	966	761	450	2,610	550	1,300	5,090	1,600	1,150	2,740	2,330	992
14	938	778	450	2,760	500	1,640	4,340	1,550	974	1,580	1,660	1,020
15	900	786	460	2,270	500	1,460	3,720	1,770	812	1,240	1,300	1,770
16	882	735	550	2,010	450	1,320	3,900	2,200	755	5,090	1,030	2,400
17	1,190	614	750	1,320	450	1,290	4,430	1,330	708	2,250	1,050	7,530
18	2,170	690	1,100	1,440	450	1,330	3,310	1,600	715	1,380	956	5,220
19	1,340	753	1,040	1,620	500	1,440	2,990	1,500	1,810	1,070	795	3,310
20	1,110	753	976	1,510	450	1,380	3,940	1,440	3,660	931	731	2,480
21	1,070	728	1,080	1,410	450	1,290	3,720	1,400	2,050	872	678	2,010
22	995	728	1,050	1,380	450	1,260	3,310	1,400	1,510	787	626	2,010
23	995	761	980	2,160	450	1,190	3,070	1,520	1,420	747	591	2,940
24	1,070	713	950	3,080	440	1,050	2,920	1,360	1,260	692	584	2,620
25	1,070	666	900	2,270	420	1,040	3,470	1,420	1,060	717	605	1,950
26	1,030	659	850	2,140	410	1,160	2,840	1,890	940	1,120	605	1,720
27	948	659	680	2,010	400	1,260	2,550	1,600	846	948	564	1,550
28	910	659	500	1,980	400	4,070	2,410	1,340	965	739	518	1,540
29	882	651	460	1,940		3,280	2,080	1,240	1,120	715	518	2,170
30	882	644	450	1,430		2,610	1,950	1,250	863	708	518	16,500
31	873		460	1,000		3,400		1,210		655	492	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	2,170	873	1,133	0.988	1.14							
November	995	614	766	.668	.75							
December	1,100	450	689	.601	.69							
January	7,110	700	2,388	2.08	2.40							
February	900	400	540	.471	.49							
March	6,500	420	1,951	1.70	1.96							
April	11,900	1,950	3,935	3.43	3.83							
May	3,560	1,210	1,794	1.56	1.80							
June	3,660	708	1,141	.995	1.11							
July	5,090	655	1,179	1.03	1.19							
August	2,330	453	766	.668	.77							
September	16,500	445	2,494	2.17	2.42							
The year	16,500	400	1,568	1.37	18.55							

## Schuylkill River at Philadelphia, Pa.

**Location.**- Water-stage recorder just above Fairmount Dam, at Philadelphia, Philadelphia County. Zero of gage is at city of Philadelphia datum, or 5.23 feet above mean sea level, Sandy Hook datum.

**Drainage area.**- 1,893 square miles (revised).

**Records available.**- January 1898 to December 1912, September 1931 to September 1934 in reports of U. S. Geological Survey; January 1903 to December 1912, September 1931 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**- 12 years (1903-12, 1931-34), 2,455 second-feet.

**Extremes.**- Maximum discharge during year, 44,800 second-feet Sept. 30 (gage height, 11.3 feet); minimum, 25 second-feet Sept. 2 (gage height, 5.52 feet); minimum daily discharge, 123 second-feet Dec. 12.

1898-1912, 1931-34: Maximum gage height, about 14.8 feet Mar. 1, 1902 (discharge not determined); no flow over dam at times; minimum daily discharge, 38 second-feet Sept. 20, 1932.

Maximum stage known, about 17.0 feet Oct. 4, 1869 (discharge not determined). **Remarks.**- Records good except those for high and low stages and those estimated for periods of ice effect, Dec. 29-31, Feb. 1 to Mar. 5, which are fair. Regulation from storage reservoirs upstream. Water supply for city of Philadelphia diverted above station not included in records except in part of monthly table. Record of diversion furnished by the city of Philadelphia.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,970	928	624	1,110	1,000	500	16,800	2,370	1,260	666	575	402
2	2,170	912	626	2,500	1,050	650	11,800	2,110	1,300	557	565	375
3	2,310	878.	470	2,660	950	1,500	7,900	4,000	1,000	466	948	416
4	1,810	895	654	2,070	900	8,000	6,350	8,500	868	490	954	473
5	1,550	868	590	3,680	850	19,000	5,940	6,980	837	496	690	551
6	1,420	1,100	692	9,890	800	8,240	4,950	4,240	837	532	613	523
7	1,590	1,200	648	10,700	750	4,440	4,610	3,380	806	408	562	806
8	1,340	1,260	643	13,700	700	3,000	4,560	2,890	891	2,480	477	11,500
9	1,260	1,050	656	8,320	650	2,310	3,930	2,840	745	2,300	489	11,000
10	1,170	974	498	6,290	600	1,920	3,440	2,370	669	924	474	4,060
11	1,170	868	494	4,950	600	1,640	3,270	2,260	760	652	1,040	2,560
12	999	838	123	4,040	650	1,340	7,360	2,520	1,020	478	1,060	1,760
13	1,160	834	365	3,540	700	1,520	7,240	2,260	2,910	1,970	2,890	1,560
14	1,120	802	415	4,210	650	2,590	5,940	2,020	1,250	4,280	2,770	1,450
15	967	851	568	3,600	600	2,780	5,070	2,050	837	2,110	1,640	1,940
16	1,030	817	632	2,890	550	2,160	5,040	2,780	709	6,270	1,390	2,730
17	1,300	694	713	2,520	550	1,970	8,340	2,680	571	4,460	1,150	9,330
18	2,980	687	1,030	2,020	550	1,920	5,470	2,110	638	2,000	1,080	8,220
19	2,540	545	1,290	1,870	600	2,020	4,440	1,780	2,380	1,390	1,070	5,180
20	1,610	730	1,520	1,920	550	1,970	4,950	1,690	4,940	1,010	872	3,820
21	1,340	768	1,900	1,730	500	1,690	5,530	1,600	3,190	865	722	2,950
22	1,260	780	1,720	1,640	500	1,600	4,440	1,490	1,970	676	648	2,680
23	1,170	760	1,340	2,020	550	1,440	4,100	2,970	1,970	640	603	2,890
24	1,130	740	1,080	4,100	490	1,290	3,380	1,920	1,600	570	567	4,120
25	1,360	644	1,060	3,160	470	1,150	4,490	1,920	1,300	650	654	2,390
26	1,350	615	1,110	2,630	460	1,260	4,210	2,730	899	1,230	595	2,510
27	1,170	701	836	2,470	450	1,390	3,490	2,420	835	1,150	610	2,070
28	1,010	651	553	2,260	450	9,660	3,270	1,830	759	844	540	2,120
29	1,040	582	480	2,330		6,890	2,950	1,520	884	629	468	1,430
30	967	680	470	1,070		4,320	2,570	1,390	870	639	466	23,600
31	1,000		480	886		4,100		1,260		710	460	
Month		Observed			Diversión (Mean)	Corrected for diversion						
		Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches				
October.....		2,980	967	1,418	240	1,658	0.876	1.01				
November.....		1,260	545	821	231	1,052	.556	.62				
December.....		1,900	123	733	232	1,015	.536	.62				
January.....		13,700	886	3,767	231	3,998	2.11	2.43				
February.....		1,050	450	647	254	901	.476	.50				
March.....		19,000	500	3,363	255	3,618	1.91	2.20				
April.....		16,800	2,570	5,544	234	5,778	3.05	3.40				
May.....		8,500	1,260	2,674	232	2,906	1.54	1.78				
June.....		4,840	571	1,330	252	1,582	.836	.93				
July.....		6,270	408	1,372	276	1,648	.871	1.00				
August.....		2,690	460	882	258	1,150	.608	.70				
September.....		23,600	376	5,857	249	4,106	2.17	2.42				
The year.....		23,600	123	2,211	245	2,456	1.30	17.61				



## Little Schuylkill River at Tamaqua, Pa.

**Location.**— Water-stage recorder at Panther Valley Water Co. pumping plant, 0.6 mile above Tamaqua, Schuylkill County, and 0.8 mile above mouth of Panther Creek.

**Drainage area.**— 42.9 square miles (revised).

**Records available.**— October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; June 1916 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**— 16 years (1916-17, 1919-34), 93.9 second-feet.

**Extremes.**— Maximum discharge during year, 1,480 second-feet Mar. 31 (gage height, 5.05 feet); minimum, 5.2 second-feet Sept. 2 (gage height, 1.41 feet).

1916-34: Maximum gage height, 7.5 feet Sept. 30, 1924 at a site 0.6 mile downstream (discharge not determined); minimum discharge, 1.8 second-feet Dec. 18, 1930 (gage height, 1.21 feet).

**Remarks.**— Records fair. Discharge based on once-daily gage readings Oct. 1-5, Mar. 3-30, and estimated for periods of ice effect, Nov. 16, 17, Dec. 9-17, Dec. 27 to Jan. 6, Jan. 31 to Feb. 14, Feb. 17 to Mar. 3, Mar. 9-13, 23-26. Regulation from storage in Still Creek Reservoir. Water diverted above station not included in records except in part of monthly table. Record of diversion furnished by Panther Valley Water Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	49	28	60	41	18	534	70	42	19	17	5.6
2	73	42	27	50	38	20	298	57	39	20	12	5.4
3	47	43	27	40	35	30	230	91	38	20	42	6.0
4	47	45	33	40	32	72	230	99	40	21	38	18
5	46	45	29	42	29	208	180	74	35	19	10	11
6	41	51	32	55	25	79	167	74	42	17	9.2	6.7
7	37	51	31	214	24	52	190	72	40	21	8.0	9.2
8	37	50	29	212	23	42	164	64	29	34	8.4	51
9	35	41	27	187	23	37	148	62	30	21	7.1	52
10	34	37	25	161	25	33	134	81	33	17	10	12
11	32	40	23	136	26	30	195	106	33	15	21	7.8
12	31	44	22	109	27	27	324	71	30	16	21	7.1
13	31	40	21	102	26	27	253	72	29	16	33	8.4
14	28	43	20	102	25	42	219	66	27	16	16	12
15	27	39	20	86	37	32	198	93	23	15	11	38
16	28	35	25	68	35	30	194	84	22	26	12	89
17	144	34	35	62	26	25	170	70	22	15	14	146
18	74	34	52	63	26	31	142	74	24	12	9.9	66
19	62	34	36	53	27	24	147	71	130	20	9.9	55
20	46	35	32	52	24	25	243	70	60	20	9.2	48
21	45	33	38	50	23	25	184	70	42	12	7.1	43
22	45	36	25	49	24	28	174	58	36	11	6.9	78
23	60	31	34	150	25	23	164	52	38	10	8.2	65
24	53	32	36	82	23	20	140	46	34	9.4	13	52
25	53	31	37	68	20	20	128	65	30	13	13	49
26	44	32	44	63	19	22	108	71	27	13	9.2	47
27	42	35	38	60	18	28	96	58	28	11	8.2	47
28	43	30	33	67	18	126	86	54	28	16	7.1	47
29	43	28	31	63		54	76	48	24	14	7.1	103
30	47	30	30	54		54	76	49	22	12	6.4	205
31	43	31	31	45		158		47		15	5.8	
Month	Observed			Diversion		Corrected for diversion						
	Maximum	Minimum	Mean	(Mean)		Mean	Per square mile	Run-off in inches				
October	144	27	47.4	7.75		55.2	1.29	1.49				
November	51	28	38.3	4.87		43.2	1.01	1.13				
December	52	20	30.7	6.00		36.7	.865	.99				
January	214	40	85.3	11.2		96.5	2.25	2.59				
February	41	18	26.6	8.93		35.5	.828	.86				
March	208	18	46.5	8.45		55.0	1.28	1.48				
April	534	76	186	4.90		191	4.45	4.96				
May	106	46	69.0	6.99		76.0	1.77	2.04				
June	130	22	55.9	6.03		40.9	.953	1.06				
July	34	9.4	16.6	6.10		22.7	.529	.61				
August	42	5.8	13.2	3.41		16.6	.387	.45				
September	206	5.4	46.3	6.89		52.2	1.22	1.36				
The year	554	5.4	53.5	6.62		60.1	1.40	19.02				

## Perkiomen Creek at Graters Ford, Pa.

**Location.**— Water-stage recorder 1,650 feet upstream from highway bridge at Graters Ford, Montgomery County, 2½ miles north of Collegeville. Zero of gage is 112.37 feet above mean sea level.

**Drainage area.**— 279 square miles (revised).

**Records available.**— October 1931 to September 1934 in reports of U. S. Geological Survey; June 1914 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**— 10 years (1914-16, 1926-34), 411 second-feet.

**Extremes.**— Maximum discharge during year, 19,100 second-feet Sept. 30 (gage height, 12.34 feet); minimum, 15 second-feet Aug. 31 (gage height, 0.94 foot); minimum daily discharge, 25 second-feet Sept. 2.

1914-34: Maximum discharge, about 34,600 second-feet Aug. 23, 1933 (gage height, 16.65 feet); minimum, 11 second-feet Sept. 25, 1932 (gage height, 0.91 foot).

**Remarks.**— Records good except those estimated for periods of ice effect, Dec. 10-16, Dec. 27 to Jan. 5, Jan. 30 to Mar. 4, which are poor. Discharge estimated for period of recorder failure, Mar. 13, 14. Some regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	130	96	68	100	180	50	3,680	192	118	61	59	30
2	348	91	64	350	160	70	1,030	179	108	59	51	25
3	165	91	63	250	140	200	640	1,440	92	55	77	27
4	127	86	71	200	120	2,500	546	1,990	84	51	70	36
5	118	85	75	1,500	100	5,860	553	1,400	82	53	52	42
6	112	118	80	2,460	90	1,080	413	620	81	52	48	49
7	108	159	74	4,560	85	525	444	407	78	50	46	290
8	98	123	76	2,650	80	348	458	238	80	518	44	7,110
9	104	105	68	996	75	269	342	239	69	144	32	1,940
10	96	96	60	664	70	241	288	221	69	87	40	526
11	89	87	55	490	65	233	471	234	99	65	53	281
12	85	89	52	389	70	216	1,880	196	473	55	66	190
13	88	87	50	418	70	210	648	157	372	69	306	147
14	89	90	50	732	65	600	458	154	134	104	136	165
15	85	93	50	424	65	480	377	233	91	650	91	368
16	78	76	55	325	70	359	1,140	371	73	1,640	75	505
17	405	74	102	264	65	348	1,510	216	64	249	81	2,340
18	497	83	202	214	65	377	656	171	75	141	76	640
19	184	87	209	216	70	407	484	140	1,470	106	65	374
20	140	84	173	199	70	303	906	125	690	92	60	252
21	122	89	522	184	70	252	525	120	262	83	63	196
22	110	87	268	167	70	244	377	502	175	73	48	280
23	108	80	188	569	70	185	319	704	277	62	44	245
24	123	76	155	464	65	154	303	257	171	60	45	449
25	177	70	142	285	55	158	568	359	122	68	37	212
26	132	72	131	262	50	196	336	652	95	215	40	164
27	113	67	100	221	45	363	293	320	86	88	40	181
28	110	70	85	221	45	4,710	308	204	101	66	35	192
29	100	66	75	277		1,110	239	161	79	61	36	219
30	98	66	70	230		656	208	151	71	62	38	8,630
31	98		75	200		1,660		140		67	26	
Month		Maximum	Minimum	Mean	Per square mile	Run-off in inches						
October		497	78	143	0.513	0.59						
November		159	66	88.1	.316	.35						
December		522	50	113	.405	.47						
January		4,560	100	661	2.37	2.73						
February		180	45	80.2	.287	.30						
March		5,860	50	786	2.82	3.25						
April		3,680	208	680	2.44	2.72						
May		1,990	120	405	1.45	1.67						
June		1,470	64	195	.699	.78						
July		1,640	50	168	.602	.69						
August		306	26	63.9	.229	.26						
September		8,630	25	869	3.11	3.47						
The year		8,630	25	355	1.27	17.28						



## Crum Creek at Woodlyn, Pa.

**Location.**— Water-stage recorder at highway bridge at Woodlyn, Delaware County, 2 miles northeast of Chester and 2½ miles above confluence with Delaware River.

**Drainage area.**— 33.3 square miles (revised).

**Records available.**— October 1931 to September 1934 in reports of U. S. Geological Survey; June 1931 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Extremes.**— Maximum discharge recorded during year, 637 second-feet Mar. 5 (gage height, 4.38 feet); minimum, 1.7 second-feet Aug. 9 (gage height, 0.62 foot).

1931-34: Maximum discharge, about 1,420 second-feet Aug. 23, 1933 (gage height, 7.56 feet); minimum, 0.3 second-foot Aug. 21, 1932 (gage height, 0.52 foot).

**Remarks.**— Records good except those estimated for periods of ice effect, Dec. 9-16, Dec. 27 to Jan. 1, Jan. 28 to Mar. 3, and those based on chain-gage readings, Mar. 4, 5, which are poor. Flow regulated by storage in Crum Creek Reservoir 5 miles upstream. Water diverted from reservoir not included in records except in part of monthly table. Record of pumpage furnished by Philadelphia Suburban Water Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	16	24	13	10	5	152	34	25	8.3	5.8	4.1
2	43	22	12	63	7	10	68	36	22	8.8	6.3	4.1
3	39	25	6.7	30	18	50	45	202	20	6.3	9.5	4.1
4	38	24	9.6	23	20	250	44	218	19	6.3	19	5.8
5	38	10	18	95	18	350	50	117	18	9.3	8.1	5.3
6	40	12	19	175	15	53	43	70	17	6.4	3.4	4.5
7	39	9.7	20	99	12	51	63	64	22	3.7	6.6	5.6
8	36	11	15	114	11	46	56	42	16	12	2.8	117
9	36	16	13	54	10	44	43	36	12	10	2.5	76
10	30	27	11	41	11	38	39	44	16	6.0	4.1	25
11	30	15	15	36	12	36	52	50	35	9.7	24	14
12	32	17	20	32	13	33	84	39	20	4.5	25	9.9
13	26	12	7	32	12	34	45	34	26	48	49	9.3
14	22	23	6	37	10	56	41	38	17	30	21	15
15	25	36	5	33	9	53	38	45	12	26	17	15
16	24	16	6	30	8	42	86	56	4.1	65	27	13
17	50	12	14	26	8	38	125	36	9.1	23	27	87
18	41	8.5	32	22	8	38	59	38	8.4	9.9	8.8	36
19	35	28	14	26	7	47	57	31	145	7.3	8.8	14
20	35	17	48	23	7	36	63	32	50	6.3	9.8	8.9
21	29	14	68	23	7	30	58	30	21	5.8	7.5	5.8
22	26	21	32	23	6	30	39	34	26	5.4	5.0	11
23	18	19	22	62	6	27	41	56	43	5.8	4.3	18
24	26	18	20	50	6	26	43	29	24	5.1	3.2	13
25	44	16	36	18	5	30	69	59	20	21	5.4	8.8
26	35	18	15	24	5	32	36	60	9.4	36	16	8.8
27	33	46	13	20	4	23	48	36	10	15	11	8.3
28	10	13	9	30	4	127	52	28	13	12	11	13
29	17	7.9	7	25	7	70	33	29	15	11	6.4	9.8
30	21	6.7	6	20	6	43	34	30	10	8.7	5.0	59
31	21	6	6	15	15	72	26	26	10	7.8	4.1	59

Month	Observed			Diversion (Mean)	Corrected for diversion		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	50	10	31.6	12.5	44.1	1.32	1.52
November.....	46	6.7	17.9	12.9	30.8	.925	1.03
December.....	68	5	17.7	13.1	30.8	.925	1.07
January.....	175	13	42.4	13.2	55.6	1.67	1.92
February.....	20	4	9.6	13.6	23.2	.697	.73
March.....	350	5	58.7	13.6	72.3	2.17	2.50
April.....	152	33	56.8	12.2	69.0	2.07	2.31
May.....	218	26	54.2	12.5	66.7	2.00	2.31
June.....	145	4.1	23.5	14.1	37.6	1.13	1.26
July.....	65	3.7	14.2	13.0	27.2	.817	.94
August.....	49	2.5	11.8	11.8	23.6	.709	.82
September.....	117	4.1	21.0	11.4	32.4	.973	1.09
The year.....	350	2.5	30.1	12.8	42.9	1.29	17.50

## Ridley Creek at Moylan, Pa.

**Location.**— Water-stage recorder at Fox Bank Bridge, at Moylan, Delaware County, 1 mile south of Media. Zero of gage is 87.36 feet above mean sea level.

**Drainage area.**— 31.9 square miles (revised).

**Records available.**— October 1931 to September 1934 in reports of U. S. Geological Survey; August 1931 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Extremes.**— Maximum gage height during year, 4.86 feet Mar. 5 (discharge not determined); minimum discharge, 2.0 second-feet Aug. 9 (gage height, 0.52 foot); minimum daily discharge, 11 second-feet Sept. 1, 2.

1931-34: Maximum gage height, 7.36 feet Aug. 23, 1933 (discharge not determined); minimum discharge, 1.6 second-feet Oct. 2, 1932; minimum daily discharge, 3.8 second-feet Sept. 14, 1932.

**Remarks.**— Records good except those estimated for period of ice effect, Jan. 31 to Mar. 3, and for periods of missing gage record, May 27-31, July 1-5, which are fair. Flow regulated by storage reservoir of Media Water Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	32	23	58	25	21	134	40	32	24	16	11
2	45	32	25	72	24	25	63	41	30	20	19	11
3	39	31	26	35	24	200	52	231	31	17	32	13
4	37	32	27	29	23	335	55	153	28	23	19	17
5	39	31	26	190	23	480	57	95	28	20	15	14
6	38	31	26	137	22	93	49	64	28	19	15	12
7	34	55	27	138	22	63	71	55	30	17	14	23
8	36	43	25	101	21	53	55	48	25	32	13	257
9	36	34	25	57	21	49	47	49	25	23	14	63
10	35	32	20	50	21	45	45	47	30	18	15	29
11	33	32	25	45	22	45	59	48	34	16	32	23
12	33	31	22	41	23	38	75	45	28	17	46	17
13	37	31	23	42	22	46	49	43	35	58	46	23
14	38	31	22	49	22	80	45	42	26	32	22	29
15	33	31	24	42	22	58	44	51	23	44	24	26
16	34	24	30	39	23	43	118	57	23	82	39	26
17	105	25	41	36	22	45	96	44	22	25	39	105
18	58	32	40	32	23	45	56	42	28	19	21	34
19	41	33	29	34	23	46	53	39	161	18	19	25
20	35	31	33	33	22	41	76	36	41	17	17	23
21	36	30	59	33	22	38	52	37	29	18	15	21
22	35	30	36	31	23	37	47	55	53	16	15	23
23	35	28	31	73	24	34	45	58	61	16	15	23
24	36	28	29	45	23	33	49	38	30	15	14	21
25	42	27	28	38	22	37	59	76	26	47	18	20
26	38	27	28	36	21	39	45	60	24	51	18	18
27	34	29	28	36	20	40	50	45	27	21	14	19
28	35	26	25	36	20	159	51	35	30	18	15	18
29	34	25	25	28	20	60	44	30	26	20	15	17
30	33	27	22	24	24	47	41	32	22	19	12	93
31	32	28	28	26	26	120	35	35	22	18	12	12
Month						Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October						105	32	39.3	1.23	1.42		
November						55	24	31.0	.972	1.08		
December						83	20	29.9	.937	1.08		
January						190	24	53.7	1.68	1.94		
February						25	20	22.3	.699	.73		
March						480	21	80.6	2.53	2.92		
April						134	41	59.4	1.86	2.08		
May						231	30	57.1	1.79	2.06		
June						161	22	34.5	1.08	1.20		
July						82	15	25.8	.809	.93		
August						46	12	20.6	.646	.74		
September						257	11	35.1	1.10	1.23		
The year						480	11	41.0	1.29	17.41		



## Chester Creek near Chester, Pa.

**Location.**— Water-stage recorder at Dutton Mill Bridge, 3 miles northwest of Chester, Delaware County. Zero of gage is 23.54 feet above mean sea level.  
**Drainage area.**— 61.1 square miles (revised).  
**Records available.**— October 1931 to September 1934 in reports of U. S. Geological Survey; August 1931 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Extremes.**— Maximum gage height during year, 7.38 feet Mar. 5 (discharge not determined); minimum discharge, 0.3 second-foot Aug. 7 (gage height, 0.28 foot); minimum daily discharge, 19 second-feet Sept. 1.  
 1931-34: Maximum gage height, 11.48 feet Aug. 23, 1933 (discharge not determined); minimum discharge, that of Aug. 7, 1934; minimum daily discharge, 6.8 second-feet Sept. 11, 14, 1932.  
**Remarks.**— Records good except those estimated for period of missing gage-height record, May 5-10, which are fair, and those estimated for periods of ice effect, Dec. 11-15, 26-31, Jan. 30 to Mar. 4, which are poor. Regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	50	42	67	45	37	250	65	57	51	29	19
2	66	49	41	141	48	50	108	69	55	38	34	24
3	57	50	44	70	46	250	87	409	52	33	61	21
4	56	49	48	57	45	580	86	267	53	48	36	32
5	58	48	46	299	45	817	91	180	52	37	28	30
6	56	97	47	261	45	167	80	100	44	35	28	22
7	55	65	48	235	45	106	74	95	52	33	24	35
8	53	54	44	182	44	91	97	75	48	46	24	422
9	54	51	44	101	41	79	80	75	48	43	24	125
10	52	50	39	84	40	75	75	90	60	36	25	54
11	50	50	37	70	40	73	99	73	88	30	49	43
12	50	50	36	67	42	69	137	69	60	31	73	34
13	57	49	35	74	41	83	86	67	68	49	99	46
14	56	50	35	82	40	157	78	67	53	48	38	68
15	52	49	36	67	41	107	72	78	49	48	39	54
16	53	43	53	63	41	85	251	89	49	178	48	47
17	165	43	69	58	40	78	176	69	44	46	69	223
18	99	52	67	53	40	79	101	66	53	32	35	65
19	63	53	51	56	40	79	89	62	330	35	35	47
20	58	49	158	53	40	69	126	60	76	32	33	44
21	54	48	120	52	43	63	89	59	52	34	27	38
22	53	48	67	53	50	63	78	82	71	33	23	47
23	53	46	56	136	60	54	75	130	104	28	26	49
24	57	45	52	76	50	57	75	64	52	24	24	43
25	64	44	49	63	40	64	88	136	44	81	35	39
26	53	46	46	62	37	68	73	110	39	96	61	36
27	53	45	44	59	35	70	82	75	50	36	28	38
28	53	42	42	61	35	272	84	82	60	34	29	36
29	51	43	41	51		104	69	57	52	33	32	36
30	52	45	40	48		79	66	63	45	33	26	194
31	50		41	46		242		65		32	24	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	165	50	60.3	0.987	1.14
November	97	42	50.1	.820	.91
December	158	35	52.2	.854	.98
January	299	46	91.8	1.50	1.73
February	60	35	42.8	.700	.73
March	817	37	138	2.28	2.61
April	251	66	101	1.65	1.84
May	409	57	97.4	1.59	1.83
June	330	39	65.3	1.07	1.19
July	178	24	44.6	.730	.84
August	99	23	37.6	.615	.71
September	422	19	67.0	1.10	1.23
The year	817	19	70.9	1.16	15.74

## White Clay Creek near Newark, Del.

**Location.**— Water-stage recorder at Baltimore & Ohio Railroad bridge  $3\frac{1}{2}$  miles east of Newark, New Castle County.  
**Drainage area.**— 87.8 square miles.  
**Records available.**— November 1931 to September 1934.  
**Extremes.**— Maximum gage height during year, 12.64 feet Mar. 6 (discharge not determined); minimum discharge, 18 second-feet Sept. 6 (gage height, 3.88 feet); minimum daily discharge, 28 second-feet Sept. 6.  
 1931-34: Maximum gage height, 16.05 feet Aug. 23, 1933 (discharge not determined); minimum discharge, 9.1 second-feet Sept. 18, 1932 (gage height, 3.71 feet); minimum daily discharge, 12 second-feet Sept. 18, 26, 1932.  
**Remarks.**— Records fair except those estimated for periods of ice effect, Dec. 10-15, 26-31, Jan. 30 to Mar. 3, which are poor. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	77	62	55	119	62	45	510	85	69	92	39	34		
2	87	63	54	176	70	50	166	87	68	60	212	35		
3	74	63	56	99	60	150	132	436	62	52	191	34		
4	70	59	64	70	55	1,240	126	236	57	54	106	41		
5	72	58	62	410	54	1,370	126	180	59	53	52	36		
6	72	131	62	326	53	231	110	126	57	53	44	28		
7	68	85	63	246	51	151	170	108	62	50	41	50		
8	66	69	57	215	50	126	132	94	54	47	39	405		
9	66	64	56	126	50	111	110	96	55	50	39	163		
10	63	63	52	105	50	105	101	96	266	48	41	71		
11	60	60	48	92	51	98	107	92	133	45	41	56		
12	62	62	46	85	52	103	256	85	75	47	48	48		
13	72	62	45	93	53	112	112	84	90	50	108	52		
14	74	64	45	101	51	204	99	82	59	49	57	82		
15	63	63	46	84	52	162	92	92	54	47	48	80		
16	65	54	62	77	52	115	555	108	51	51	87	64		
17	197	55	85	70	50	106	262	80	48	43	114	193		
18	132	61	84	65	51	105	149	80	55	41	58	74		
19	80	66	62	66	52	101	128	75	533	39	50	56		
20	74	63	184	65	50	89	167	80	123	39	45	51		
21	69	60	140	61	50	80	128	70	83	38	41	49		
22	69	60	81	65	60	80	114	94	72	42	40	53		
23	68	57	69	232	55	72	105	194	70	38	39	56		
24	72	56	64	110	50	74	106	80	67	35	39	51		
25	77	57	60	85	47	82	110	161	61	63	55	48		
26	66	59	58	84	46	90	96	145	55	98	100	48		
27	66	59	55	78	45	92	108	96	162	47	47	48		
28	66	55	52	80	45	350	110	80	80	44	41	53		
29	63	55	50	74		141	94	72	66	46	43	47		
30	64	56	49	65		106	89	77	101	49	38	245		
31	64		50	60		579		74		45	37			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					197		60		75.4		0.859		0.99	
November.....					131		54		63.4		.722		.81	
December.....					184		45		65.0		.740		.85	
January.....					410		60		119		1.36		1.57	
February.....					70		45		52.4		.597		.62	
March.....					1,370		45		210		2.39		2.76	
April.....					555		89		156		1.78		1.99	
May.....					436		70		114		1.30		1.50	
June.....					533		48		94.9		1.08		1.20	
July.....					92		35		50.2		.572		.66	
August.....					212		37		63.9		.728		.84	
September.....					405		28		78.4		.893		1.00	
The year.....					1,370		28		95.5		1.09		14.79	



## Brandywine Creek at Chadds Ford, Pa.

Location.- Water-stage recorder at Pennsylvania Railroad bridge at Chadds Ford, Delaware County. Zero of gage is 150.19 feet above mean sea level.  
 Drainage area.- 287 square miles (revised).  
 Records available.- October 1918 to September 1934 in reports of U. S. Geological Survey; August 1911 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
 Average discharge.- 23 years (1911-34), 370 second-feet.  
 Extremes.- Maximum discharge during year, 5,110 second-feet Mar. 5 (gage height, 8.48 feet); minimum, 48 second-feet Dec. 27 (gage height, 0.44 foot); minimum daily discharge, 137 second-feet Sept. 1.  
 1911-34: Maximum gage height, 15.0 feet Mar. 5, 1920 (discharge uncertain; previously published figure probably in error); minimum discharge, 18 second-feet Jan. 22, 1931 (gage height, 0.34 foot); minimum daily discharge, 50 second-feet Sept. 11, 13, 23, 1932.  
 Remarks.- Records good except those above 1,000 second-feet and those estimated for periods of ice effect, Dec. 11-15, 26-31, Jan. 30 to Mar. 3, and for period of missing gage record, Mar. 13, 14, which are fair. Regulation at low stages from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	407	282	226	340	250	190	2,400	358	282	223	168	137
2	505	279	218	699	245	230	815	349	271	207	176	142
3	410	282	220	310	240	2,000	578	1,060	259	199	269	142
4	374	274	237	271	235	2,690	522	1,270	251	254	220	171
5	371	401	231	1,020	235	3,080	559	922	248	212	176	161
6	365	420	234	1,330	230	952	486	559	248	202	164	144
7	349	346	231	1,140	230	522	559	486	254	191	156	180
8	343	306	226	1,110	225	448	540	427	231	1,260	151	1,210
9	336	288	220	598	215	391	451	407	226	383	149	716
10	327	276	199	468	210	371	420	400	322	256	158	307
11	318	271	190	410	215	355	421	410	321	218	324	226
12	318	274	185	378	215	324	1,030	381	315	210	287	194
13	343	271	180	379	210	350	548	365	632	550	547	237
14	330	271	180	434	210	450	451	362	288	431	256	309
15	315	271	185	374	205	523	420	407	240	297	218	282
16	312	242	229	340	205	407	654	523	223	909	266	290
17	654	237	301	315	200	381	1,250	427	212	325	427	242
18	552	262	352	276	200	381	578	368	231	226	240	434
19	371	268	268	297	195	378	504	333	1,340	207	204	282
20	340	268	392	282	195	343	624	321	518	199	194	240
21	321	256	505	274	210	318	522	312	306	191	175	223
22	315	256	321	276	220	312	451	456	353	194	164	248
23	315	251	268	554	240	288	437	521	643	184	164	259
24	318	245	251	436	220	276	427	346	355	174	166	229
25	358	240	240	327	200	294	504	601	266	203	228	212
26	312	240	230	318	190	318	434	553	231	357	178	204
27	300	242	220	300	180	321	424	384	366	226	164	204
28	294	234	210	306	180	1,750	451	355	675	197	158	240
29	288	229	200	250		794	387	309	271	191	160	212
30	285	229	200	270		468	368	315	242	189	149	1,570
31	282		200	260		564		297		184	142	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	654		282		356		1.24		1.43			
November	420		229		274		.955		1.07			
December	505		180		244		.850		.98			
January	1,330		250		463		1.61		1.86			
February	250		180		214		.746		.78			
March	3,080		190		660		2.30		2.65			
April	2,400		368		607		2.11		2.35			
May	1,270		297		470		1.64		1.89			
June	1,340		212		356		1.24		1.38			
July	1,260		174		298		1.04		1.20			
August	547		142		213		.742		.86			
September	1,570		137		322		1.12		1.25			
The year	3,080		137		374		1.30		17.70			

## SUSQUEHANNA RIVER BASIN



Location.- Chain gage at Washington Street Bridge at Binghamton, Broome County,  
500 feet upstream from mouth of Chenango River. Zero of gage is 821.49 feet  
above mean sea level.

Drainage area.- 2,290 square miles (revised).  
Records available.- July 1901 to December 1912; January 1915 to September 1934.  
Extremes.- Maximum gage height during year, 16.0 feet Mar. 5 (from graph based on  
measured readings); minimum 1.73 feet July 28. 13.0 feet (determined from

Extremes.—Maximum gage height 24 feet July 26, 1901-12, 1915-34; minimum 1.73 feet July 26, 1901-12, 1915-34; Maximum gage height, 18.0 feet (determined from hydrograph based on gage readings) Mar. 16, 1929; minimum 1.5 feet Sept. 20, 1908.

1908. Maximum stage known, 23.5 feet Mar. 17, 1865.  
Remarks.- Records good. Gage heights obtained at this station for flood warning purposes. Discharge is not determined.

Daily mean gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.07	3.21	3.78	4.72	3.05	2.50	11.05	3.20	2.28	2.37	2.16	2.04
2	2.89	3.03	3.58	8.24	3.12	2.34	8.17	3.04	2.19	2.32	2.17	1.92
3	2.79	2.99	3.40	7.56	3.76	3.01	6.84	2.97	2.17	2.26	2.11	1.90
4	2.77	2.95	3.58	6.31	3.46	6.71	6.42	3.24	2.22	2.19	2.06	1.89
5	2.70	2.90	4.72	5.26	3.14	13.12	6.68	3.54	2.12	2.20	2.05	1.94
6	2.64	2.84	4.54	4.89	3.18	14.24	6.38	3.38	2.38	2.18	1.92	2.04
7	2.59	2.80	4.20	5.41	3.04	8.89	7.02	3.09	2.28	2.17	1.86	2.15
8	2.57	2.96	3.98	6.72	2.90	5.72	6.14	3.05	2.20	2.17	1.80	2.16
9	2.52	3.02	3.76	6.94	2.86	4.02	5.38	2.84	2.20	2.14	1.82	2.22
10	2.49	2.96	3.28	5.84	2.69	3.72	4.92	2.23	2.29	2.08	1.94	2.29
11	2.47	2.80	2.96	4.90	2.86	3.36	4.63	3.00	2.24	2.04	1.92	2.33
12	2.46	2.80	2.84	4.42	2.83	3.08	8.00	3.34	2.18	1.97	1.95	2.28
13	2.40	2.79	3.20	4.06	2.52	3.04	7.78	3.23	2.58	1.99	1.89	2.20
14	2.32	3.20	3.17	3.98	2.64	3.39	6.70	2.98	2.70	1.94	1.87	2.16
15	2.32	3.47	3.24	3.84	2.84	3.10	6.14	2.89	2.62	1.94	1.84	2.18
16	2.37	3.25	2.96	3.48	2.78	3.42	6.22	2.86	2.46	1.90	1.82	2.56
17	2.34	2.92	3.13	3.33	2.72	3.41	8.04	2.76	2.36	1.98	1.92	5.99
18	2.49	2.84	3.84	3.00	2.68	3.94	7.62	2.66	2.28	1.90	1.95	4.64
19	2.48	2.98	3.78	3.00	2.28	3.82	6.44	2.63	2.61	1.94	2.02	3.60
20	2.64	2.99	3.66	3.31	2.28	3.62	5.99	2.57	4.86	1.92	2.06	3.06
21	2.56	2.98	3.42	3.10	2.54	3.32	5.65	2.52	4.90	1.88	1.96	2.77
22	2.46	3.23	3.26	3.04	2.18	3.15	5.02	2.51	3.75	1.86	1.92	2.63
23	2.62	4.54	3.26	3.28	2.27	3.03	4.59	2.60	3.24	1.88	1.89	2.69
24	2.76	4.34	3.48	3.64	2.68	2.82	4.34	2.68	2.95	1.80	2.01	2.58
25	5.28	3.87	5.38	4.02	2.61	2.68	4.03	2.66	3.00	1.75	2.10	2.48
26	5.88	3.58	5.42	3.66	2.40	2.57	3.81	2.54	2.87	1.76	2.10	2.40
27	4.74	3.72	3.90	3.44	2.40	2.94	3.66	2.42	2.64	1.86	2.03	2.36
28	4.10	3.78	3.13	3.20	2.44	8.24	3.52	2.46	2.55	1.86	1.99	2.35
29	3.66	3.66	3.04	3.29		7.23	3.45	2.39	2.51	2.10	1.98	2.40
30	3.53	3.49	3.64	3.74		5.55	3.32	2.35	2.44	2.11	1.96	3.17
31	3.32		3.71	3.44		4.98		2.32		2.23	2.08	

Location.- Chain gage at Bridge Street Bridge at Towanda, Bradford County. Zero of gage is 693.85 feet above mean sea level.

Records available.- October 1918 to October 1920, October 1931 to September 1934 in reports of U. S. Geological Survey; December 1892 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.— 16 years (1918-34), 9,867 second-feet.  
Extremes.— Maximum discharge during year, 77,400 second-feet Mar. 6 (gage height, 15.6 feet, from graph based on gage readings); minimum, 744 second-feet Aug. 10 (gage height, 0.20 foot).  
Lowest stage, 24.5 feet Mar. 2, 1902 (discharge not

1892-1934: Maximum gage height, 24.5 feet Mar. 2, 1902 (discharge not determined); minimum discharge, 538 second-feet Dec. 3, 1930 (gage height, -0.15 foot); minimum daily discharge, 613 second-feet Oct. 22, 23, Nov. 29, 1930. Stage brown 25.0 feet Mar. 17, 1865 (discharge not determined).

Maximum stage known, 25.0 feet Mar. 17, 1865 (discharge not determined).  
Remarks.— Records good except those estimated for periods of ice effect, Dec. 14-17,  
 29-31, Jan. 20-23, Jan. 30 to Mar. 5, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	5,450	5,800	8,280	12,000	5,700	1,600	49,000	6,850	1,920	2,040	1,340	1,020		
2	4,600	5,450	9,000	34,900	5,500	1,800	48,600	6,150	1,810	2,040	1,270	1,020		
3	3,920	4,770	8,280	30,400	5,200	2,500	31,100	5,800	1,600	1,810	1,270	969		
4	3,590	4,600	7,920	25,600	4,800	20,000	25,400	5,450	3,590	1,600	1,200	917		
5	3,590	4,260	11,000	18,000	4,500	50,000	28,600	6,150	4,090	1,420	1,080	1,080		
6	3,270	4,090	12,800	14,600	4,200	74,000	24,200	6,500	2,960	1,340	1,080	1,080		
7	2,960	4,260	11,000	15,600	3,800	47,000	30,400	6,500	2,540	1,510	969	1,420		
8	2,810	4,090	10,200	25,000	3,300	23,400	27,200	5,450	2,410	1,510	871	1,420		
9	2,670	4,770	9,000	27,200	3,100	14,200	21,800	4,770	2,160	1,420	825	1,510		
10	2,540	4,770	7,920	25,000	3,000	10,200	17,500	4,430	1,700	1,420	744	1,600		
11	2,280	4,430	5,800	18,000	3,000	7,560	16,800	4,430	2,280	1,270	871	1,600		
12	2,280	4,090	3,430	14,200	2,900	6,500	41,200	4,430	2,670	1,200	969	1,920		
13	2,280	4,260	3,430	11,900	2,800	6,500	44,100	5,800	2,960	1,080	917	1,600		
14	2,040	5,800	3,300	10,600	2,700	7,560	31,800	5,110	3,430	1,080	917	1,340		
15	1,810	7,560	3,300	9,760	2,600	9,360	28,400	4,430	3,590	1,020	917	1,270		
16	1,700	7,200	3,800	9,000	2,500	8,640	20,700	4,090	3,270	969	1,080	1,430		
17	1,920	5,800	5,000	8,280	2,400	8,640	28,500	3,920	2,540	1,020	917	19,800		
18	2,160	5,110	9,360	6,850	2,300	9,360	29,200	3,590	2,040	969	871	22,000		
19	2,540	5,110	12,800	4,770	2,200	11,600	23,600	3,270	3,000	969	969	12,400		
20	2,960	5,450	10,600	4,600	2,100	9,760	20,100	2,960	7,260	917	1,020	8,460		
21	2,810	5,450	9,760	4,600	2,000	8,640	18,500	2,960	12,400	917	1,020	6,150		
22	2,670	6,150	8,640	4,600	1,900	8,280	16,100	2,810	9,760	871	1,020	5,110		
23	2,960	11,000	8,280	5,000	1,800	7,200	14,200	2,540	6,150	825	917	6,850		
24	3,430	13,300	7,660	7,660	1,700	6,150	12,400	2,540	4,770	784	969	6,150		
25	8,480	11,000	17,400	8,640	1,600	4,770	11,000	2,810	4,260	871	1,020	4,770		
26	14,600	9,000	22,400	8,640	1,500	4,260	10,200	2,810	4,090	825	1,020	4,260		
27	13,700	8,280	15,600	7,200	1,500	4,950	9,000	2,540	3,430	784	1,020	3,590		
28	9,760	9,360	9,760	7,200	1,500	35,800	8,280	2,410	2,670	784	1,080	3,270		
29	7,920	9,000	5,600	6,850		31,100	7,920	2,160	2,540	825	1,080	3,430		
30	6,850	8,280	5,000	6,300		20,800	7,560	2,040	2,280	871	1,080	6,500		
31	6,500		6,000	5,900		17,600		1,920		1,200	1,080			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					14,600		1,700		4,421		0.567		0.65	
November.....					13,300		4,090		6,416		.823		.92	
December.....					22,400		3,500		8,778		1.13		1.30	
January.....					34,900		4,600		12,660		1.62		1.87	
February.....					5,700		1,900		2,932		1.98		2.28	
March.....					74,000		1,600		15,470		2.99		3.34	
April.....					49,000		7,560		23,340		.528		.61	
May.....					6,850		1,920		4,117		.471		.53	
June.....					12,400		1,600		3,672		.150		.17	
July.....					2,040		784		1,013		.130		.16	
August.....					1,340		744		4,465		.573		.64	
September.....					22,000		917							
The year.....					74,000		744		7,385		.947		12.85	



## North Branch of Susquehanna River at Wilkes-Barre, Pa.

**Location.**- Water-stage recorder at Market Street Bridge at Wilkes-Barre, Luzerne County. Zero of gage is 511.03 feet above mean sea level.  
**Drainage area.**- 9,960 square miles.  
**Records available.**- March 1899 to December 1913, October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; November 1890 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**- 35 years (1899-1934), 13,500 second-feet.  
**Extremes.**- Maximum discharge during year, 85,500 second-feet Mar. 6 (gage height, 18.0 feet, from graph based on chain-gage readings); minimum, 1,170 second-feet July 26 (gage height, 1.00 foot).  
 1890-1934: Maximum discharge (estimated), 221,000 second-feet Mar. 2, 1902 (gage height, 31.4 feet); minimum, 820 second-feet Sept. 12, 16, 17, 20, 1913.  
 Maximum stage known, 33.1 feet Mar. 18, 1865 (discharge not determined).  
**Remarks.**- Records good except those based on chain-gage readings for periods of recorder failure, Jan. 3-17, 22, Mar. 5-17, 28-30, and those estimated for period of ice effect, Jan. 31 to Mar. 4, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,120	8,300	10,900	10,200	8,000	2,100	49,600	9,500	2,900	2,990	1,880	1,460
2	6,830	7,560	10,600	28,500	7,500	2,200	69,200	8,900	2,720	2,720	2,300	1,460
3	5,730	6,980	11,200	37,900	7,000	2,700	51,600	8,500	2,540	2,540	2,300	1,460
4	5,080	6,410	10,200	32,900	6,500	8,500	39,100	10,900	2,580	2,580	2,220	1,700
5	4,710	5,860	10,200	28,100	6,000	72,000	38,500	12,500	3,160	2,150	2,220	1,700
6	4,470	5,860	13,400	23,600	5,500	83,900	37,300	10,600	4,470	2,080	1,880	1,940
7	4,240	5,730	15,000	23,200	5,000	73,500	37,500	10,200	3,680	1,940	1,700	2,010
8	4,010	5,860	13,400	29,600	4,500	47,000	40,500	8,900	3,080	2,010	1,600	2,600
9	3,900	6,140	12,500	34,600	4,000	28,600	34,000	7,700	2,900	2,010	1,500	3,480
10	3,790	6,550	10,900	33,400	3,800	17,900	28,100	7,410	2,810	1,940	1,460	3,180
11	3,580	6,690	9,200	28,100	3,700	14,200	24,100	7,260	2,630	1,880	1,420	3,080
12	3,580	6,270	7,120	22,900	3,600	10,900	40,700	6,830	2,630	1,880	1,380	2,460
13	3,280	5,860	5,340	19,200	3,600	9,200	59,800	7,120	2,990	1,880	1,380	2,540
14	3,180	6,140	4,120	16,600	3,500	9,500	49,000	7,700	3,180	2,680	1,460	2,540
15	2,990	7,700	3,900	15,400	3,400	11,600	39,100	7,410	3,480	1,760	1,500	2,720
16	2,810	9,200	6,000	13,900	3,200	12,600	32,900	6,550	4,010	1,650	1,460	3,480
17	3,080	8,300	7,260	12,500	3,100	12,300	32,900	6,000	3,680	1,600	1,460	19,600
18	3,230	7,410	11,600	10,600	3,100	12,300	37,300	5,600	3,180	1,460	1,600	34,000
19	3,480	6,830	15,800	8,900	3,000	13,000	34,600	5,080	3,580	1,380	1,500	24,100
20	3,380	6,980	16,200	7,120	2,700	14,600	29,600	4,710	5,710	1,380	1,420	15,400
21	3,680	7,120	15,000	7,560	2,600	12,600	26,100	4,360	9,000	1,380	1,380	10,900
22	3,680	7,410	14,200	7,260	2,500	11,600	23,600	4,240	13,000	1,300	1,420	8,300
23	4,360	8,600	13,000	8,900	2,400	10,200	21,000	4,010	10,600	1,260	1,550	9,500
24	5,470	13,800	12,300	9,850	2,200	9,200	18,200	3,790	7,560	1,250	1,600	9,500
25	8,300	15,800	14,400	10,200	2,200	7,560	16,200	4,010	5,860	1,300	1,940	8,600
26	13,800	13,400	27,100	12,000	2,100	6,690	15,000	4,240	4,960	1,200	1,880	6,830
27	18,700	11,600	24,600	11,200	2,000	6,550	13,400	4,120	4,590	1,440	1,600	5,730
28	16,600	11,200	17,800	10,600	2,000	16,400	12,300	3,790	4,240	5,260	1,600	4,960
29	13,000	12,300	11,400	10,200		44,500	11,200	3,480	3,680	4,210	1,600	4,960
30	10,600	11,600	6,980	10,200		35,700	10,200	3,380	3,180	2,630	1,600	10,900
31	9,200		4,710	9,000		25,600		2,990		2,080	1,560	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	18,700	2,810	6,120	0.614	0.71							
November	15,800	5,730	8,315	.835	.93							
December	27,100	3,900	11,810	1.19	1.37							
January	37,900	7,120	17,540	1.76	2.03							
February	8,000	2,000	3,882	.390	.41							
March	83,900	2,100	20,790	2.09	2.41							
April	69,200	10,200	32,410	3.25	3.63							
May	12,300	2,990	6,496	.652	.75							
June	13,000	2,580	4,413	.443	.49							
July	5,260	1,200	2,050	.206	.24							
August	2,300	1,380	1,657	.166	.19							
September	34,000	1,460	7,036	.706	.79							
The year	83,900	1,200	10,230	1.03	13.95							

## North Branch of Susquehanna River at Danville, Pa.

**Location.**- Chain gage at highway bridge at Danville, Montour County. Zero of gage is 430.47 feet above mean sea level.  
**Drainage area.**- 11,220 square miles (revised).  
**Records available.**- March 1899 to December 1913, October 1918 to September 1921, July 1932 to September 1934 in reports of U. S. Geological Survey; March 1899 to December 1903, March 1905 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Average discharge.**- 31 years (1899-1900, 1901-3, 1905-31, 1932-34), 15,100 second-feet.  
**Extremes.**- Maximum discharge during year, 89,600 second-feet Mar. 6 (gage height, 14.5 feet, from graph based on gage readings); minimum, 1,310 second-feet July 24, 25 (gage height, 2.05 feet).  
 1899-1934: Maximum discharge (estimated), 305,000 second-feet Mar. 3, 1902 (gage height, 26.07 feet); minimum, 830 second-feet Sept. 23-25, 1900 (gage height, 1.6 feet).  
**Remarks.**- Records fair. Discharge estimated for period of ice effect, Feb. 9 to Mar. 4, and for period of missing gage-height record, Sept. 16.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,000	9,730	12,100	7,530	4,140	2,400	51,100	10,700	3,970	3,750	2,560	1,730
2	7,870	9,250	10,700	23,400	3,750	3,000	73,500	9,730	3,750	3,330	2,280	1,610
3	7,430	8,320	11,200	42,500	6,170	4,000	64,500	9,730	3,350	3,180	2,710	1,610
4	6,170	7,430	11,600	38,400	6,170	13,000	48,400	11,200	3,180	3,020	2,710	2,860
5	5,770	7,000	10,700	32,500	7,000	43,200	44,100	14,100	3,020	2,860	2,560	2,560
6	5,380	6,580	10,200	26,900	6,580	79,800	44,100	13,100	3,910	2,710	2,560	2,280
7	5,000	6,580	15,100	26,200	6,580	81,900	41,700	12,100	4,820	2,410	2,280	2,410
8	4,820	6,580	14,600	32,500	5,580	56,300	46,600	11,200	4,300	2,410	1,850	2,560
9	4,640	6,580	13,100	38,400	5,000	33,600	42,500	9,730	3,750	2,410	1,850	3,750
10	4,300	6,580	11,600	40,000	4,500	20,600	33,900	8,780	3,490	2,410	1,850	4,300
11	4,300	7,000	11,200	33,900	4,500	15,100	26,200	9,730	3,750	2,280	1,730	3,750
12	3,970	7,000	9,250	26,900	4,400	11,600	38,200	9,250	3,490	2,120	1,850	3,180
13	3,970	7,000	6,170	22,400	4,300	9,730	66,600	8,320	3,180	2,120	1,730	2,860
14	3,910	7,000	5,580	20,000	4,100	9,250	61,700	8,780	3,330	2,120	1,610	3,180
15	3,750	7,000	5,380	17,200	4,000	9,730	48,400	9,250	3,750	3,330	1,610	3,490
16	3,490	8,780	5,000	16,100	3,900	11,600	40,000	8,780	3,970	2,410	1,850	3,970
17	3,750	9,250	5,380	14,600	3,800	12,600	36,900	7,870	4,140	2,120	1,730	13,600
18	4,820	8,780	9,250	14,100	3,700	12,100	40,800	7,000	3,970	1,850	1,730	38,400
19	4,140	7,870	15,100	11,200	3,600	12,600	41,700	6,580	3,970	1,730	1,850	34,600
20	4,140	7,870	17,200	9,730	3,500	13,600	36,100	6,170	6,170	1,610	1,730	21,200
21	3,970	7,430	16,100	8,320	3,400	13,600	30,300	5,580	7,000	1,500	1,610	14,600
22	4,300	7,870	15,600	8,780	3,300	12,600	27,500	5,380	11,600	1,500	1,500	12,100
23	5,000	8,320	15,100	8,320	3,000	11,200	24,200	5,380	13,100	1,400	1,730	12,600
24	6,580	9,730	14,100	11,600	2,800	9,730	21,200	4,920	10,200	1,310	1,980	12,600
25	8,780	16,100	13,600	11,200	2,600	8,780	18,900	4,820	7,430	1,310	1,980	11,600
26	12,100	15,600	20,600	11,600	2,400	7,430	17,200	5,770	6,170	1,400	2,280	9,250
27	17,900	13,100	29,600	12,600	2,300	7,660	15,600	5,580	5,190	1,500	1,980	7,870
28	19,400	12,100	23,000	12,100	2,300	14,600	14,100	5,000	5,000	1,810	1,980	6,580
29	15,600	12,100	17,200	12,100		38,500	12,600	4,640	4,640	6,120	1,980	6,580
30	13,100	12,600	9,730	7,000		41,700	12,100	4,300	4,140	4,640	1,850	15,400
31	11,200		7,000	7,000		33,200		4,300		3,180	1,850	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October						19,400	3,490	6,982	0.622		0.72	
November						16,100	6,580	8,904	.794		.89	
December						29,600	5,000	12,650	1.13		1.30	
January						42,500	7,000	19,520	1.74		2.01	
February						7,000	2,300	4,192	.374		.39	
March						81,900	2,400	21,120	1.88		2.17	
April						73,500	12,100	37,360	3.33		3.72	
May						14,100	4,300	7,989	.712		.82	
June						13,100	3,020	5,057	.451		.50	
July						6,120	1,310	2,447	.218		.25	
August						2,710	1,500	1,979	.176		.20	
September						38,400	1,610	8,769	.782		.87	
The year						81,900	1,310	11,430	1.02		13.84	



## Susquehanna River at Sunbury, Pa.

**Location.**— Staff and chain gages at Philadelphia & Reading Railway bridge at Sunbury, Northumberland County. Zero of gages is 419.00 feet above mean sea level.

**Drainage area.**— 18,300 square miles (revised).

**Records available.**— August 1916 to September 1934.

**Extremes.**— Maximum gage height during year, 10.28 feet Mar. 6; minimum, 0.58 foot July 25.

1916-34: Maximum gage height, 18.0 feet Mar. 14, 1920; minimum, 0.32 foot Sept. 25-27, 1932.

Maximum stage known, 21.0 feet June 1, 1889.

**Remarks.**— Record good. Gage heights obtained at this station for flood warning purposes. Discharge is not determined.

Daily mean gage-height in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.08	2.33	2.94	2.62	2.22	1.46	7.11	2.92	1.51	1.38	1.04	0.86
2	2.07	2.16	2.80	4.01	2.24	1.55	8.32	2.79	1.45	1.30	.93	.80
3	2.05	2.12	2.80	6.94	2.41	1.62	7.67	2.71	1.41	1.22	.90	.75
4	1.89	2.03	2.88	6.46	2.82	2.85	6.57	2.90	1.33	1.18	1.02	.93
5	1.77	1.89	2.79	5.66	2.57	6.37	6.69	3.04	1.27	1.14	.97	1.02
6	1.68	1.82	2.70	5.10	2.63	9.51	6.94	3.20	1.29	1.11	.96	1.00
7	1.65	1.89	3.05	5.03	2.56	8.48	6.89	2.90	1.59	1.08	.94	.97
8	1.63	1.92	3.10	6.05	2.41	6.97	7.02	2.81	1.47	1.08	.88	1.10
9	1.54	1.92	2.92	6.67	2.21	5.23	6.76	2.61	1.34	1.08	.83	1.14
10	1.52	1.92	2.76	6.63	1.98	4.14	6.03	2.46	1.27	1.08	.81	1.34
11	1.50	1.91	2.56	5.88	1.98	3.42	5.55	2.55	1.28	1.05	.95	1.34
12	1.44	1.98	2.32	5.28	1.98	2.92	7.14	2.49	1.35	.97	.80	1.22
13	1.39	1.97	1.92	4.72	1.94	2.74	9.52	2.40	1.25	.93	.80	1.10
14	1.35	1.95	1.92	4.40	2.40	2.63	8.57	2.41	1.30	.90	.80	1.09
15	1.31	2.00	1.80	4.04	2.97	2.84	7.16	2.50	1.40	1.03	.79	1.22
16	1.26	2.43	1.85	3.78	2.71	3.07	6.43	2.46	1.40	1.15	.92	1.26
17	1.29	2.34	2.13	3.60	2.56	3.11	6.23	2.30	1.47	.93	1.06	5.92
18	1.57	2.31	2.42	3.32	2.48	3.09	6.15	2.18	1.39	.86	.97	5.68
19	1.53	2.19	3.74	3.10	2.40	3.12	6.04	2.08	1.53	.86	.88	5.24
20	1.50	2.16	4.42	2.83	2.28	3.12	5.73	2.02	1.99	.74	.85	4.18
21	1.44	2.16	4.10	2.44	2.18	3.19	5.29	1.94	2.39	.72	.80	3.31
22	1.42	2.19	4.10	2.51	2.00	3.08	4.94	1.85	2.77	.71	.78	2.88
23	1.57	2.36	4.29	2.56	2.02	2.86	4.60	1.80	2.97	.66	.80	2.98
24	1.90	2.71	3.96	2.92	1.52	2.69	4.30	1.77	2.58	.60	.91	2.75
25	2.17	3.38	3.69	3.04	1.42	2.54	4.01	1.76	2.23	.61	.88	2.65
26	2.57	3.39	4.35	2.90	1.64	2.32	3.80	1.89	2.00	.60	.92	2.44
27	3.02	3.18	5.05	3.08	1.52	2.37	3.51	1.90	1.85	.60	.98	2.20
28	3.46	2.99	4.59	2.98	1.44	4.01	3.58	1.81	1.70	.72	.92	2.02
29	3.09	2.94	3.76	2.79		5.84	3.17	1.70	1.63	1.51	1.08	2.07
30	2.77	3.07	3.54	2.56		6.67	3.02	1.63	1.51	1.63	.98	4.06
31	2.53		2.78	2.36		5.31		1.60		1.23	.88	

## Susquehanna River at Harrisburg, Pa.

**Location.**— Water-stage recorder at Nagle Street, 500 feet above sanitary dam, and at Market Street Bridge, 3,700 feet above sanitary dam, and wire gage at Walnut Street Bridge, 500 feet above Market Street, in Harrisburg, Dauphin County. Zero of gages is 290.04 feet (revised by 1929 adjustment) above mean sea level.

**Drainage area.**— 24,100 square miles.

**Records available.**— October 1890 to September 1934.

**Discharge.**— 44 years (1890-1934): Average, 34,650 second-feet; 90 percent of time, 5,500 second-feet.

**Extremes.**— Maximum discharge during year, 141,000 second-feet Apr. 14, Sept. 17; maximum gage height, 9.75 feet at Nagle Street, 12.3 feet at Walnut Street Mar. 6 (affected by ice); minimum discharge, 3,000 second-feet July 24 (Nagle Street gage height, 3.02 feet; Walnut Street gage height, 3.09 feet).

1890-1934: Maximum discharge, about 613,000 second-feet May 22, 1894 (gage height, 25.7 feet at Walnut Street); minimum, about 1,600 second-feet Nov. 29, 1930 (Nagle Street gage height, 2.48 feet; Walnut Street gage height, 2.56 feet).

Maximum stage known, 26.8 feet at Walnut Street June 2, 1889 (discharge, about 699,000 second-feet).

**Remarks.**— Records excellent except those estimated for periods of ice effect, Nov. 16-18, Dec. 11-21, Dec. 27 to Jan. 4, Jan. 29 to Mar. 7, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14,200	16,400	19,500	14,000	14,000	5,500	74,700	23,000	9,070	8,080	7,670	4,630
2	13,600	15,000	18,900	18,000	14,000	6,000	112,000	21,300	8,490	7,260	6,000	4,310
3	13,600	14,000	17,800	40,000	13,500	7,500	116,000	21,300	7,940	6,880	5,770	4,100
4	12,900	12,900	18,000	70,000	13,500	10,000	94,500	23,700	7,260	6,500	5,420	4,310
5	12,200	12,200	18,400	62,900	14,000	18,000	84,000	25,100	6,880	6,130	5,420	4,200
6	11,600	11,700	17,800	58,400	14,000	85,000	86,700	26,600	6,760	6,000	5,420	5,300
7	11,200	11,400	17,600	58,400	13,500	125,000	86,700	24,900	6,500	5,770	5,070	5,540
8	10,600	11,400	20,400	84,000	12,000	107,000	89,300	22,500	7,670	5,770	4,840	5,540
9	10,100	11,600	20,900	99,500	11,000	75,300	91,900	21,100	8,220	5,420	4,630	6,250
10	9,670	11,900	19,100	94,500	10,500	50,400	81,300	19,100	7,670	5,420	4,520	6,250
11	9,220	11,900	17,000	81,300	10,000	36,300	70,200	19,100	7,400	5,300	5,300	6,880
12	8,780	12,100	10,000	67,300	10,000	27,800	78,600	19,100	7,400	4,960	5,770	7,010
13	8,490	12,100	9,000	56,800	10,000	23,000	124,000	18,400	7,670	4,960	5,650	7,130
14	8,220	12,100	8,500	48,800	10,000	21,300	136,000	17,600	7,130	4,960	4,840	6,380
15	7,810	12,200	9,000	42,500	10,000	21,300	109,000	18,000	7,010	4,520	4,730	8,490
16	7,530	9,500	9,500	38,500	9,500	23,200	89,300	19,100	7,130	4,630	4,840	10,200
17	8,360	9,500	11,000	34,600	9,500	25,100	81,300	18,400	7,260	6,000	5,300	84,700
18	9,520	14,000	15,000	30,000	9,500	24,600	73,600	17,000	7,530	5,190	5,880	99,000
19	9,810	16,200	25,000	28,000	9,000	24,200	75,800	15,500	9,370	4,520	5,880	73,000
20	9,810	14,200	35,000	25,400	8,500	23,700	71,600	14,400	11,400	4,200	5,540	54,400
21	9,220	13,900	42,000	21,600	8,500	23,700	64,400	13,600	14,200	3,890	5,300	37,600
22	8,630	13,600	40,800	19,800	8,500	23,900	55,300	12,900	17,000	3,680	4,730	29,200
23	8,630	13,800	38,500	20,000	7,500	22,500	50,400	12,100	20,200	3,390	4,420	27,300
24	9,370	14,600	37,100	20,900	6,500	20,400	44,000	11,400	20,900	3,200	4,200	25,100
25	11,400	18,000	33,100	24,600	6,000	18,700	39,600	11,600	17,800	3,200	4,200	23,000
26	13,500	24,400	33,300	23,400	5,500	17,000	35,400	11,900	14,400	3,390	4,960	20,400
27	17,600	24,200	40,000	22,500	5,500	15,900	32,300	12,200	12,200	3,100	4,840	17,800
28	23,200	21,600	45,000	23,400	5,500	21,600	29,500	12,100	10,900	3,100	5,070	15,900
29	24,900	20,000	25,000	20,000		48,000	26,800	11,200	9,810	4,350	5,070	15,200
30	21,600	19,100	18,000	14,000		78,600	24,900	10,400	9,070	5,300	4,730	27,400
31	18,400		14,000	13,000		68,800		9,670		10,100	5,070	
Month					Maximum	Minimum	Mean		Per square mile		Run-off in inches	
October.....					24,900	7,530	12,050		0.500		0.58	
November.....					24,400	9,500	14,510		.602		.67	
December.....					45,000	8,500	22,720		.943		1.09	
January.....					99,500	13,000	41,160		1.71		1.97	
February.....					14,000	5,500	9,982		.414		.43	
March.....					125,000	5,500	35,490		1.47		1.70	
April.....					136,000	24,900	74,470		3.09		3.45	
May.....					26,600	9,670	17,230		.715		.82	
June.....					20,900	6,500	10,070		.418		.47	
July.....					10,100	3,100	5,135		.213		.25	
August.....					7,670	4,200	5,196		.216		.25	
September.....					99,000	4,100	21,550		.894		1.00	
The year.....					136,000	3,100	22,480		.933		12.68	



## Susquehanna River at Marietta, Pa.

**Location.**— Water-stage recorder 420 feet above mouth of Chickies Creek and 1 mile (revised) downstream from Marietta, Lancaster County. Zero of gage is 200.00 feet above mean sea level.

**Drainage area.**— 25,990 square miles.

**Records available.**— October 1931 to September 1934.

**Extremes.**— Maximum discharge during year, 152,000 second-feet Sept. 17; maximum gage height, 46.52 feet Jan. 3 (affected by ice); minimum discharge, 2,420 second-feet July 25, 29 (gage height, 31.75 feet); minimum daily discharge, 3,430 second-feet July 25.

1931-34: Maximum discharge, 310,000 second-feet Aug. 24, 1933 (gage height, 49.44 feet); minimum, 618 second-feet Sept. 26, 1932 (gage height, 30.89 feet); minimum daily discharge, 1,380 second-feet Sept. 26, 1932.

Maximum stage known, 58.0 feet June 1889 (discharge, about 700,000 second-feet).

**Remarks.**— Records good except those for low stages and those for estimated periods, which are fair. Discharge estimated for periods of ice effect, Nov. 16, 17, Dec. 12-17, Dec. 29 to Jan. 7, Jan. 29 to Mar. 6, and for period of missing gage-height record, Dec. 2, 3. Flows below 8,000 second-feet regulated by York Haven Power Co. plant upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17,000	18,700	21,600	15,000	14,000	6,500	77,400	26,300	11,400	9,490	10,200	5,190
2	18,700	17,300	20,500	20,000	14,500	7,000	98,200	24,600	10,300	8,770	7,770	4,960
3	16,600	16,000	19,500	40,000	14,000	8,500	116,000	25,400	9,740	7,950	6,930	4,970
4	16,000	15,000	19,400	70,000	13,500	13,000	100,000	29,800	9,490	7,720	7,590	8,620
5	14,600	13,700	20,100	65,000	14,000	18,000	85,700	29,800	8,470	6,800	6,330	6,900
6	14,000	14,000	19,400	65,000	14,000	80,000	89,200	29,800	8,040	6,960	5,800	5,570
7	13,400	13,100	18,700	70,000	13,500	128,000	89,200	28,800	8,070	7,170	6,030	6,350
8	12,800	13,400	20,800	92,700	13,000	108,000	89,200	26,300	8,000	10,700	5,520	8,270
9	12,800	13,100	22,300	104,000	12,000	79,000	92,700	24,600	9,490	8,220	5,330	8,430
10	11,600	13,100	20,800	100,000	11,500	54,600	85,700	22,300	9,490	6,220	5,360	7,590
11	10,800	13,100	18,700	87,400	11,000	39,100	74,100	21,600	8,830	6,200	5,550	8,040
12	10,500	13,100	10,500	74,100	11,000	29,800	80,600	20,800	8,750	5,900	9,030	8,040
13	10,000	13,400	9,500	61,800	11,000	26,300	118,000	20,800	8,750	5,800	17,000	8,990
14	9,490	13,700	9,500	53,200	11,000	23,100	136,000	20,100	8,990	5,460	8,300	9,030
15	8,750	13,400	9,500	46,500	11,000	23,100	114,000	20,100	7,950	5,640	6,190	16,500
16	8,770	10,000	10,500	41,400	10,500	23,900	94,500	20,800	7,740	5,080	7,870	21,100
17	10,100	10,000	12,500	36,800	10,500	26,300	85,700	20,800	8,060	5,320	8,750	89,200
18	13,400	16,000	14,300	30,700	10,500	27,100	80,600	19,400	7,840	7,060	7,870	119,000
19	12,800	17,300	18,600	28,800	10,000	26,300	77,400	18,000	10,500	5,550	7,270	82,300
20	11,900	17,000	35,200	27,100	9,500	26,300	75,700	16,600	15,000	4,740	7,220	64,800
21	11,400	16,600	43,900	24,600	9,500	26,300	69,400	16,000	15,300	4,860	6,050	46,500
22	10,800	16,000	41,400	21,600	9,500	26,300	60,300	15,300	18,700	3,780	6,060	34,600
23	10,000	15,600	40,200	23,100	8,500	25,400	54,600	14,300	23,100	3,600	5,610	31,600
24	10,500	15,600	40,200	23,100	7,500	23,100	49,100	13,400	23,900	3,500	4,790	29,800
25	12,200	17,300	34,600	25,400	7,000	20,800	43,900	13,400	21,600	3,430	5,600	26,500
26	13,700	23,100	33,600	26,300	6,500	20,100	39,100	15,300	18,000	4,130	5,170	23,900
27	17,300	26,300	37,600	25,400	6,000	18,700	35,700	14,300	15,000	4,230	5,640	21,600
28	22,300	23,900	47,800	25,400	6,000	24,000	33,600	14,300	12,800	3,960	5,560	19,400
29	26,500	22,300	35,000	20,000		44,300	30,700	13,700	11,400	3,720	6,240	20,000
30	24,600	20,800	20,000	16,000		72,500	28,000	12,200	10,300	4,820	5,480	58,200
31	21,600		15,000	14,000		71,000		11,900		8,020	4,990	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	26,300		8,750		13,980		0.538		0.62			
November	26,300		10,000		16,060		.618		.89			
December	47,800		9,500		23,910		.920		1.06			
January	104,000		14,000		44,340		1.71		1.97			
February	14,500		6,000		10,730		.413		.43			
March	128,000		6,500		36,980		1.42		1.64			
April	136,000		28,000		76,810		2.96		3.30			
May	29,800		11,900		20,030		.771		.89			
June	23,900		7,740		11,830		.455		.51			
July	10,700		3,430		5,961		.229		.26			
August	17,000		4,790		6,874		.264		.30			
September	119,000		4,960		26,860		1.03		1.15			
The year	136,000		3,430		24,550		.945		12.82			

## Chemung River at Corning, N. Y.

**Location.**— Chain gage at Bridge Street Bridge at Corning, Steuben County. Zero of gage is 912.82 feet above mean sea level.

**Drainage area.**— 2,010 square miles (revised).

**Records available.**— December 1909 to September 1934.

**Extremes.**— Maximum gage height during year, 12.0 feet Mar. 4 (from graph based on gage readings); minimum, 2.0 feet July 3, 6 and 7.

1909-34: Maximum gage height, 18.0 feet (determined from hydrograph) Mar. 13, 1920; minimum, 1.8 feet Sept. 2, 3, 1921.

Maximum stage known, 20.0 feet June 1, 1889.

**Remarks.**— Records good. Gage heights obtained at this station are for flood warning purposes. Discharge is not determined.

Daily mean gage-height in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	2.5	3.7		3.4	2.8	7.6	3.2	2.2	2.1	2.4	2.4
2	2.6	2.5	3.5	8.6	3.2	2.8	5.9	3.1	2.2	2.1	2.3	2.3
3	2.5	2.5	3.4	5.5	3.1	2.8	5.6	3.0	2.2	2.0	2.3	2.3
4	2.5	2.5	3.3	4.9	3.0	11.4	5.8	3.0	2.3	2.1	2.3	2.2
5	2.5	2.5	3.4	4.4	2.9	9.4	6.3	2.9	2.5	2.1	2.3	2.2
6	2.5	2.5	3.3	4.3	2.9	7.0	5.6	2.9	2.4	2.0	2.3	2.2
7	2.5	2.5	3.3	5.0	2.9	4.9	6.2	2.9	2.4	2.0	2.3	2.1
8	2.5	2.6	3.2	6.5	2.9	4.3	5.7	2.9	2.1	2.8	2.2	2.1
9	2.5	2.7	3.2	5.4	2.9	3.7	5.4	2.9	2.1	2.5	2.2	2.4
10	2.5	2.7	3.1	4.8	2.9	3.3	5.0	2.8	2.1	2.4	2.1	2.6
11	2.4	2.6	2.9	4.4	2.9	3.3	6.4	3.0	2.3	2.2	2.3	2.5
12	2.4	2.6	2.9	4.2	2.8	3.3	9.6	3.0	2.3	2.2	2.4	2.3
13	2.3	2.7	2.9	4.0	2.8	3.2	6.9	2.9	2.3	2.2	2.6	2.3
14	2.3	3.2	3.0	4.0	2.9	5.8	6.2	2.8	2.3	2.2	3.0	2.3
15	2.3	3.2	3.1	3.8	2.9	4.5	5.7	2.7	2.3	2.2	2.7	2.2
16	2.3	2.9	2.9	3.7	2.8	4.4	5.1	2.7	2.3	2.3	2.5	2.4
17	2.3	2.9	3.1	3.5	2.8	3.9	4.9	2.7	2.2	2.2	2.6	6.8
18	2.4	2.9	4.9	3.1	2.8	4.2	4.6	2.6	2.2	2.2	2.5	4.0
19	2.5	2.9	4.1	3.1	2.8	3.8	4.5	2.6	2.3	2.1	2.4	3.3
20	2.5	2.9	3.8	3.5	2.8	3.8	4.4	2.6	2.8	2.1	2.4	2.8
21	2.4	3.1	3.8	3.3	2.8	3.7	4.3	2.5	3.0	2.1	2.4	2.7
22	2.4	3.5	3.9	3.0	2.8	4.1	4.1	2.5	2.5	2.1	2.4	2.7
23	2.4	4.5	3.8	3.1	2.8	3.6	4.0	2.5	2.4	2.1	2.3	3.3
24	2.6	4.0		3.3	2.8	3.1	3.9	2.5	2.2	2.1	2.4	3.0
25	2.7	3.7		3.1	2.8	3.0	3.9	2.4	2.2	2.1	2.4	2.8
26	3.0	3.6	4.7	3.1	2.8	3.0	3.8	2.4	2.2	2.1	2.3	2.7
27	2.9	3.6	4.5	3.2	2.8	3.0	3.6	2.4	2.2	2.1	2.3	2.7
28	2.8	3.5	5.0	3.0		8.5	3.5	2.4	2.1	2.1	2.3	2.6
29	2.6	3.5	5.2	2.8		5.2	3.4	2.3	2.1	2.2	2.5	2.6
30	2.6		5.1	2.8		4.6	3.3	2.3	2.1	2.3	2.5	3.5
31	2.6		5.2	3.0		4.4		2.2	2.4	2.4	2.4	



Towanda Creek near Monroeton, Pa.

Location.- Chain gage at highway bridge 1½ miles above mouth of South Branch of Towanda Creek and 1½ miles southwest of Monroeton, Bradford County. Zero of gage is 774.14 feet above mean sea level.

Drainage area.- 214 square miles (revised).

Records available.- October 1920 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; January 1914 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 16 years (1914-16, 1920-34), 290 second-feet.

Extremes.- Maximum discharge during year, about 8,280 second-feet Sept. 17 (gage height, 6.8 feet, estimated by observer from flood mark); minimum, 1.8 second-feet July 25, 26 (gage height, 1.20 feet).

1914-34: Maximum gage height (estimated), 11.0 feet Nov. 16, 1928 (discharge uncertain; previously published figure probably in error) minimum discharge, 0.7 second-foot Sept. 15, 17, 21, 22, 1932.

Remarks.- Records good except those estimated for periods of ice effect, Dec. 11-17, Dec. 27 to Jan. 1, Feb. 1 to Mar. 3, Mar. 10-17, 24-26, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	105	165	800	110	43	2,270	129	33	14	8.3	11
2	83	96	183	992	100	50	1,050	122	29	11	7.8	5.2
3	76	90	124	582	90	400	747	203	26	15	8.5	4.1
4	69	88	152	509	80	1,010	1,220	303	29	16	7.4	9.4
5	65	83	160	419	70	1,430	840	230	28	14	6.7	33
6	69	96	148	401	63	492	747	199	26	12	4.5	34
7	62	98	128	747	57	226	995	182	33	16	3.4	22
8	58	169	111	940	52	185	661	151	24	27	2.7	21
9	58	144	105	622	50	156	546	137	20	19	2.3	25
10	54	124	78	509	48	130	509	134	22	14	2.7	24
11	54	101	60	443	48	120	1,050	151	27	11	3.4	17
12	48	98	50	395	48	115	3,530	127	26	9.4	3.2	14
13	44	98	45	378	48	120	1,200	115	27	8.3	4.5	11
14	43	308	45	366	48	125	840	108	27	12	6.3	12
15	40	208	50	318	48	135	704	100	22	7.1	5.6	19
16												
16	40	178	70	278	48	145	704	93	19	7.4	6.3	44
17	56	160	200	252	49	170	794	85	15	6.7	6.3	400
18	88	121	840	218	50	256	582	76	13	6.7	5.6	479
19	69	114	425	238	47	192	509	70	198	5.6	4.8	243
20	56	114	372	226	45	192	476	62	204	4.1	3.6	156
21												
21	53	139	622	203	47	199	407	60	93	3.4	3.0	112
22	54	238	437	195	50	192	359	62	60	2.7	2.3	104
23	200	367	413	278	46	129	298	76	46	2.5	2.5	104
24	172	288	406	413	42	110	269	65	33	2.3	11	95
25	516	246	925	361	41	100	230	68	28	1.8	17	78
26												
26	281	246	622	226	40	110	203	70	23	1.8	11	68
27	208	246	400	252	40	243	188	60	24	6.0	8.8	64
28	173	193	250	199	40	704	175	53	22	4.1	11	70
29	135	169	200	188		546	164	47	19	5.6	12	126
30	128	165	200	165		403	140	43	16	5.6	12	392
31	118		250	106		464		38		6.7	8.8	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					516	40	105	0.491		0.57		
November.....					387	83	165	.771		.86		
December.....					925	45	266	1.24		1.43		
January.....					992	106	394	1.84		2.12		
February.....					110	40	55.2	.258		.27		
March.....					1,430	43	287	1.34		1.54		
April.....					3,530	140	746	3.49		3.89		
May.....					303	38	110	.514		.59		
June.....					204	13	40.4	.189		.21		
July.....					27	1.8	8.99	.042		.05		
August.....					17	2.3	6.55	.031		.04		
September.....					2,400	4.1	160	.748		.83		
The year.....					3,530	1.8	196	.918		12.40		

Tunkhannock Creek at Dixon, Pa.

Location.- Chain gage at highway bridge at Dixon, Wyoming County, 3 miles northeast of Tunkhannock.

Drainage area.- 383 square miles (revised).

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; January 1914 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 16 years (1918-34), 535 second-feet.

Extremes.- Maximum discharge during year, about 9,070 second-feet Sept. 17 (gage height, 9.0 feet, from graph based on gage readings); minimum, 21 second-feet July 23, 24 (gage height, 1.04 feet).

1914-34: Maximum gage height, 13.1 feet Sept. 30, 1924 (discharge uncertain; previously published figure probably in error); minimum discharge, 9.0 second-feet Aug. 12, 1930 (gage height, 0.73 foot).

Remarks.- Records poor. Discharge estimated for periods of missing or questionable gage-height record or of ice effect, Oct. 15, 25, Nov. 11-21, Dec. 10-17, Dec. 20 to Jan. 5, Jan. 21, Jan. 31 to Mar. 3, Mar. 8-15, 17, 23, 25, Mar. 31 to Apr. 4, Apr. 20, 21, May 26, 27, June 9, Aug. 12. Some regulation from storage in natural and artificial lakes and from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	217	341	267	500	230	75	2,500	289	93	37	667	71
2	191	291	246	600	210	90	1,500	257	84	34	293	62
3	177	267	246	500	190	1,000	1,100	348	72	33	289	54
4	177	246	422	450	170	2,640	1,200	580	65	37	293	91
5	157	224	394	400	150	4,620	677	1,210	89	44	212	217
6	154	367	394	835	130	1,680	1,750	580	80	37	142	208
7	128	341	367	915	110	888	2,200	518	60	39	102	138
8	115	394	422	796	100	600	1,420	436	48	65	76	421
9	140	394	367	684	98	400	1,160	353	45	73	77	580
10	137	315	270	422	96	300	1,000	386	49	55	250	359
11	137	300	220	367	95	220	1,310	580	74	39	208	234
12	125	290	190	341	94	180	4,440	380	55	33	160	185
13	125	310	180	483	94	170	2,680	318	52	45	118	155
14	89	500	180	614	90	160	1,710	289	65	57	71	214
15	85	400	190	483	86	160	1,420	289	49	39	60	896
16	89	300	220	452	85	380	1,420	261	44	44	60	745
17	143	270	400	367	85	400	1,510	230	39	36	91	5,810
18	341	260	422	291	90	370	1,120	196	39	32	89	2,100
19	226	250	394	367	85	338	1,000	185	482	29	74	1,800
20	145	250	350	291	80	298	1,100	169	476	28	54	850
21	142	280	400	280	80	328	930	159	200	24	52	677
22	128	422	370	267	85	280	744	177	138	24	48	612
23	484	485	350	224	90	220	710	188	107	21	65	744
24	579	394	370	180	85	185	580	169	80	23	224	549
25	1,160	367	500	515	75	150	549	135	76	25	361	448
26	995	367	400	452	70	177	471	170	52	37	162	380
27	684	422	300	341	70	270	419	140	71	48	129	338
28	547	394	250	315	70	248	370	124	73	967	100	364
29	452	367	200	291		620	338	129	59	598	129	732
30	394	315	200	224		448	308	124	52	303	105	3,730
31	367		250	230		500		105		250	84	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						1,160	85	291	0.760		0.88	
November.....						500	224	337	.890		.98	
December.....						500	180	314	.820		.95	
January.....						915	180	435	1.14		1.31	
February.....						230	70	107	.279		.89	
March.....						4,620	75	593	1.55		1.79	
April.....						4,440	308	1,255	3.28		3.66	
May.....						1,210	105	308	.799		.92	
June.....						482	39	98.9	.258		.29	
July.....						967	21	102	.266		.31	
August.....						667	48	156	.407		.47	
September.....						5,810	54	772	2.02		2.25	
The year.....						5,810	21	397	1.04		14.10	



Location.- Water-stage recorder at Harts Bridge 2½ miles southeast of Wapwallopen, Luzerne County, and 3½ miles upstream from mouth of creek.

Drainage area.- 45.8 square miles (revised).

Records available.- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; October 1919 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 14 years (1920-34), 60.3 second-feet.

Extremes.- Maximum discharge during year, about 1,120 second-feet Apr. 1 (gage height, 5.74 feet); minimum, 4.9 second-feet July 21 (gage height, 0.88 foot).

1919-34: Maximum gage height (estimated), 7.9 feet Sept. 30, 1924 (discharge uncertain; previously published figure probably in error); minimum discharge, 3 second-feet Sept. 27, 28, Oct. 30, 31, 1922 (gage height, 0.76 foot).

Remarks.- Records fair except those estimated for periods of ice effect, Nov. 15-21, Dec. 12-21, Dec. 26 to Jan. 6, Jan. 17-21, Jan. 29 to Mar. 4, Mar. 9-16, 19-27, and for period of missing gage record, Aug. 21-23, which are poor. Some regulation at low stages from operation of gristmills upstream.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	51	32	50	46	37	653	41	32	9.1	14	6.5
2	49	48	30	80	46	40	261	37	27	9.4	12	5.6
3	41	46	32	70	45	80	189	73	25	7.8	22	5.7
4	42	42	38	60	45	250	262	113	24	15	15	30
5	38	40	36	70	45	324	194	73	24	12	10	23
6	36	47	33	110	45	181	160	61	20	9.2	9.4	12
7	34	52	32	302	44	126	203	57	21	8.8	9.9	9.2
8	32	58	30	214	44	101	151	51	18	10	7.3	45
9	35	52	32	156	44	85	129	46	17	9.8	8.3	38
10	31	45	25	129	44	70	115	84	26	7.7	8.8	23
11	29	43	36	111	43	55	128	131	68	7.6	11	18
12	28	42	22	97	43	45	227	81	33	6.6	12	16
13	27	47	21	94	42	40	150	71	29	7.7	21	13
14	25	64	20	94	41	40	150	68	25	14	15	19
15	25	50	20	82	41	42	118	79	20	15	9.5	38
16	26	40	21	74	41	45	122	78	18	18	9.2	28
17	106	36	30	74	41	50	114	62	14	9.5	11	17
18	73	35	45	74	41	45	98	56	13	8.5	9.1	62
19	46	35	80	67	41	50	96	51	55	8.0	8.0	47
20	38	36	45	60	40	45	109	47	55	7.6	8.6	36
21	33	40	40	52	40	40	88	43	26	5.1	7	30
22	32	49	51	50	41	35	77	42	20	5.3	6	44
23	96	43	46	82	41	32	71	41	18	5.7	9	43
24	100	39	44	79	39	30	69	36	16	5.7	13	31
25	127	36	50	69	38	30	64	64	15	7.2	15	26
26	87	36	48	56	37	31	56	85	14	18	9.2	23
27	79	43	43	60	36	40	54	53	13	14	9.2	22
28	70	36	38	53	36	186	52	43	14	160	6.8	22
29	62	34	35	50		102	46	39	12	55	10	78
30	60	33	35	48		101	43	38	10	27	7.8	219
31	55		37	47		157		36		19	5.8	
Month						Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....						127	25	51.9	1.13	1.30		
November.....						64	33	43.3	.945	1.05		
December.....						80	20	36.4	.795	.92		
January.....						302	47	87.5	1.91	2.20		
February.....						46	36	41.8	.913	.95		
March.....						324	30	81.6	1.79	2.06		
April.....												

Location.- Water-stage recorder at highway bridge at Bower, Clearfield County, 4.8 miles downstream from Mahaffey and mouth of Chest Creek. Zero of gage is 1,207.22 feet above mean sea level.

Drainage area.- 315 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; October 1913 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 21 years, 558 second-feet.

Extremes.- Maximum discharge during year, 3,540 second-feet Sept. 30; maximum gage height, 11.88 feet Mar. 4 (affected by ice); minimum discharge, 19 second-feet July 25 (gage height, 3.76 feet).

1913-34: Maximum discharge (estimated), 13,000 second-feet Sept. 5, 1926; maximum gage height, 14.6 feet Mar. 12, 1920 (affected by ice); minimum discharge, 16 second-feet Sept. 29, Oct. 1, 6, 13, 1930 (gage height, 3.66 feet).

Remarks.- Records good except those estimated for periods of ice effect, Nov. 16-19, Dec. 11-16, 28-31, Jan. 18-23, Jan. 30 to Mar. 4, and those based on chain-gage readings, May 18-26, July 15-23, which are poor. Some regulation at low stages from power operations upstream.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	36	122	1,810	500	38	750	175	64	54	81	62
2	51	35	107	1,580	400	45	700	167	61	78	47	54
3	46	35	107	1,010	300	200	650	157	53	121	130	46
4	41	35	179	580	250	1,700	1,090	157	50	311	191	43
5	44	55	245	920	200	2,410	1,320	147	46	131	90	44
6	61	48	197	975	170	1,880	1,010	140	54	87	54	40
7	50	119	167	1,810	150	1,010	1,880	151	51	78	40	37
8	43	113	147	2,220	130	695	1,520	122	48	80	43	38
9	65	91	128	1,600	110	506	1,160	111	57	67	33	56
10	60	83	90	1,160	100	415	901	130	160	52	38	43
11	51	70	80	842	90	392	1,280	235	128	46	147	45
12	44	107	75	656	85	319	1,400	170	93	42	174	41
13	38	203	70	571	80	357	1,050	144	70	66	159	60
14	36	402	70	556	75	489	934	131	57	130	178	120
15	33	253	100	463	70	396	1,010	152	47	70	99	463
16	31	190	2,200	399	70	392	823	195	42	41	154	798
17	40	180	1,930	324	65	357	756	157	39	35	386	1,480
18	61	180	2,840	240	65	403	625	140	51	30	200	615
19	60	200	1,570	220	60	380	556	122	1,310	27	120	388
20	47	255	1,590	210	55	365	506	100	529	30	89	275
21	40	252	2,940	220	50	338	443	85	38	33	67	203
22	40	588	1,730	230	47	327	396	120	183	30	54	166
23	41	361	1,130	280	43	242	396	258	411	26	53	138
24	46	232	851	411	40	211	357	180	242	23	348	120
25	48	222	1,650	349	38	251	309	130	144	22	942	105
26	52	192	1,080	331	36	225	275	111	105	21	363	87
27	44	200	737	295	35	819	255	103	101	22	209	85
28	42	172	480	684	35	1,530	238	91	89	133	157	107
29	38	152	400	1,640		968	213	85	71	93	140	1,080
30	34	138	380	650		706	192	78	65	51	109	2,600
31	34		450	550		635		71		85	82	
Month				Maximum	Minimum	Mean	Per square mile	Run-off in inches				
October.....				65	31	45.9	0.146	0.17				
November.....				402	35	168	.533	.59				
December.....				2,940	70	772	2.46	2.62				
January.....				2,220	210	763	2.42	2.79				
February.....				500	35	120	.381	.40				
March.....				2,410	38	610	1.94	2.24				
April.....				1,880	192	766	2.43	2.70				
May.....				258	71	1						



## West Branch of Susquehanna River at Renovo, Pa.

**Location.**- Water-stage recorder at highway bridge at Renovo, Clinton County. Zero of gage is 634.03 feet above mean sea level.  
**Drainage area.**- 2,975 square miles (revised).  
**Records available.**- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; July 1895 to December 1903, October 1905 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Average discharge.**- 22 years (1908-15, 1919-34), 4,720 second-feet.  
**Extremes.**- Maximum discharge during year, 21,500 second-feet Apr. 12; maximum gage height, 11.72 feet Mar. 5 (affected by ice); minimum discharge, 166 second-feet July 26 (gage height, -0.79 foot).  
 1895-1903, 1905-34: Maximum discharge (estimated), 106,000 second-feet Apr. 30, 1909; maximum gage height, 25.0 feet Feb. 28, 1910 (affected by ice); minimum discharge, 80 second-feet Dec. 6, 1908 (gage height, -1.10 feet).  
 Maximum stage known, 28.8 feet June 1, 1889 (discharge not determined).  
**Remarks.**- Records good except those estimated for periods of ice effect, Nov. 16-22, Dec. 11-18, Jan. 30 to Mar. 5, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	470	511	2,250	8,620	2,400	450	6,730	2,300	824	718	458	464
2	518	490	2,250	14,900	2,300	550	7,300	2,160	769	636	391	402
3	464	470	2,080	12,100	2,100	800	7,160	2,080	726	620	464	352
4	402	451	2,080	9,050	2,000	2,000	11,500	2,010	684	660	568	521
5	420	439	2,010	7,600	1,900	10,000	15,600	1,940	628	744	628	280
6	504	464	1,940	7,450	1,800	12,200	14,100	1,870	582	1,060	610	255
7	518	484	1,940	8,220	1,600	9,130	13,100	1,800	652	861	560	241
8	477	511	1,800	15,000	1,400	6,410	14,600	1,640	628	709	414	270
9	445	582	1,630	14,800	1,200	4,720	12,200	1,540	582	718	331	275
10	433	692	1,340	11,800	1,100	3,760	10,200	1,520	575	628	305	321
11	427	726	1,000	9,050	1,000	2,980	10,400	1,800	590	545	300	336
12	402	676	900	7,450	1,000	2,460	19,700	2,010	847	484	528	331
13	391	718	850	6,320	950	2,590	17,800	1,940	1,050	458	746	295
14	380	852	850	5,680	900	3,650	13,200	1,800	1,060	458	1,230	280
15	352	1,190	900	4,940	900	3,600	10,600	1,740	806	470	1,190	270
16	331	1,000	1,200	4,360	850	3,600	9,050	1,740	660	414	890	378
17	374	900	3,000	3,700	900	3,280	8,220	1,630	560	408	769	1,570
18	451	950	8,500	2,980	750	3,380	7,300	1,570	518	408	709	4,600
19	504	1,100	10,600	2,620	700	3,280	6,460	1,500	1,620	342	820	2,540
20	490	1,400	7,750	2,620	600	3,180	6,060	1,380	4,270	305	842	1,640
21	445	1,800	9,300	2,300	550	2,980	5,550	1,280	2,200	260	575	1,250
22	451	2,400	11,400	2,250	600	2,890	5,060	1,240	2,010	232	458	968
23	490	3,080	8,380	2,380	600	2,540	4,700	1,250	1,800	200	402	815
24	511	3,280	7,020	2,710	500	2,080	4,360	1,230	2,080	187	427	735
25	612	2,800	7,540	2,540	450	2,140	4,030	1,290	2,010	187	568	709
26	735	2,380	9,600	2,800	420	2,300	3,600	1,290	1,430	175	1,120	644
27	726	2,580	7,990	2,380	400	2,870	3,280	1,140	1,150	200	1,560	545
28	668	2,460	5,940	2,460	400	9,750	3,080	1,050	1,030	290	1,020	497
29	620	2,230	4,600	3,640		9,290	2,710	968	919	524	761	566
30	582	2,080	3,490	3,000		6,870	2,540	919	815	396	644	2,110
31	551		4,090	2,500		5,950		880		372	538	
Month												
	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	735	331	488	0.164	0.19							
November	3,280	439	1,317	.443	.49							
December	11,400	850	4,328	1.45	1.67							
January	15,000	2,250	6,068	2.04	2.35							
February	2,400	400	1,078	.362	.38							
March	12,200	450	4,247	1.43	1.65							
April	19,700	2,540	8,673	2.92	3.26							
May	2,300	880	1,565	.526	.61							
June	4,270	518	1,136	.382	.43							
July	1,060	175	473	.159	.18							
August	1,560	300	672	.226	.26							
September	4,600	241	808	.272	.30							
The year	19,700	175	2,579	.867	11.77							

## West Branch of Susquehanna River at Lock Haven, Pa.

**Location.**- Chain gage at Jay Street Bridge at Lock Haven, Clinton County. Zero of gage is 535.00 feet above mean sea level.  
**Drainage area.**- 3,338 square miles (revised).  
**Records available.**- October 1913 to August 1923; August 1925 to September 1934.  
**Extremes.**- Maximum gage height during year, 14.5 feet Jan. 6, from graph based on gage readings (affected by ice); minimum, 0.79 foot July 26.  
 1913-23, 1925-34: Maximum gage height, 26.8 feet (caused by ice) Feb. 21, 1918; minimum, 0.60 foot Sept. 25, 1932.  
 Maximum stage known, 29.8 feet May 31, 1889.  
**Remarks.**- Records good. Gage heights obtained at this station are for flood warning purposes. Discharge is not determined.

Daily mean gage-height in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.52	1.56	2.92	12.63	4.56	2.74	4.75	2.98	1.81	1.64	1.14	1.36
2	1.48	1.52	3.05	8.20	5.00	2.70	5.08	2.89	1.76	1.55	1.28	1.20
3	1.42	1.49	3.09	6.52	4.55	2.78	5.08	2.83	1.68	1.49	1.36	1.18
4	1.38	1.46	2.97	5.70	4.24	3.02	5.70	2.77	1.64	1.56	1.33	1.19
5	1.38	1.44	2.83	5.25	4.02	7.12	7.31	2.72	1.53	1.54	1.42	1.18
6	1.43	1.46	2.79	5.02	3.92	6.95	7.08	2.67	1.45	1.71	1.44	1.02
7	1.43	1.50	2.71	5.28	3.78	6.32	6.82	2.62	1.47	1.96	1.44	.96
8	1.43	1.52	2.72	6.62	3.65	5.25	6.97	2.51	1.55	1.68	1.34	1.00
9	1.40	1.59	2.63	7.11	3.54	4.30	6.70	2.42	1.52	1.56	1.19	1.27
10	1.37	1.66	2.27	6.55	3.44	3.92	6.05	2.40	1.52	1.58	1.09	1.12
11	1.35	1.76	2.05	5.82	3.22	3.32	6.22	2.55	1.53	1.43	1.11	1.12
12	1.32	1.74	1.87	5.14	3.04	2.90	8.70	2.72	1.54	1.37	1.11	1.13
13	1.30	1.71	1.82	4.80	3.22	2.85	8.20	2.65	2.00	1.32	1.20	1.11
14	1.25	1.80	1.96	4.53	3.38	3.32	7.05	2.58	1.92	1.25	1.38	1.08
15	1.24	2.04	2.19	4.22	3.35	4.02	6.38	2.44	1.85	1.25	1.60	1.06
16	1.24	2.24	2.56	3.90	3.29	3.86	5.82	2.34	1.68	1.42	1.90	1.45
17	1.40	1.93	3.15	3.69	3.24	3.90	5.39	2.45	1.53	1.22	1.77	2.22
18	1.47	1.89	4.88	3.55	3.14	3.65	5.08	2.40	1.43	1.13	1.62	3.68
19	1.50	2.01	5.78	3.48	2.99	3.80	4.87	2.37	1.96	1.14	1.59	3.40
20	1.48	2.31	5.60	3.35	2.98	3.72	4.65	2.32	3.25	1.07	1.77	2.74
21	1.40	2.45	6.28	3.24	2.99	3.39	4.38	2.24	3.70	1.03	1.57	2.28
22	1.33	6.45	3.12	2.96	3.26	4.22	2.18	2.90	.97	1.39	2.08	
23	1.50	3.18	5.72	2.98	2.92	3.62	4.08	2.15	2.57	.92	1.25	1.84
24	1.50	3.59	6.08	3.18	2.90	3.68	3.97	2.13	2.65	.85	1.29	1.72
25	1.63	3.42	4.88	3.21	2.88	3.62	3.82	2.19	2.67	.85	1.35	1.65
26	1.76	3.18	5.68	3.16	2.84	3.32	3.62	2.25	2.42	.80	1.57	1.60
27	1.79	3.10	5.55	3.08	2.79	3.06	3.47	2.11	2.16	.84	2.28	1.52
28	1.76	3.20	4.95	3.14	2.75	6.14	3.35	2.01	2.00	1.25	2.15	1.43
29	1.69	3.02	4.55	3.24		5.90	3.21	1.97	1.88	1.46	1.79	1.57
30	1.64	2.94	5.28	4.32		4.85	3.10	1.91	1.75	1.32	1.56	2.02
31	1.61		6.11	4.30		4.64		1.86		1.18	1.46	







Driftwood Branch of Sinnemahoning Creek at Sterling Run, Pa.

Location.- Staff gage 800 feet above highway bridge at Sterling Run, Cameron County, and 1,100 feet above mouth of Sterling Run. Zero of gage is 894.60 feet above mean sea level.

Drainage area.- 281 square miles (revised).

Records available.- November 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; September 1913 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 15 years (1919-34), 437 second-feet.

Extremes.—Maximum discharge during year, 3,860 second-feet Apr. 12 (gage height, 5.2 feet, from graph based on gage readings); minimum, 3.6 second-feet July 26 (gage height, 1.29 feet).

1913-34: Maximum discharge, about 12,700 second-feet Feb. 12, 1925; maximum gage height, 10.4 feet (from graph based on gage readings affected by ice) Mar. 5, 1920, at a site 800 feet downstream; minimum discharge, 0.4 second-foot Sept. 7, 12, 13, 14, 1950.

Remarks.—Records good except those estimated for periods of ice effect, Nov. 16-21, Dec. 11-17, Dec. 26 to Jan. 1, Jan. 19-23, Jan. 31 to Mar. 4, Mar. 11-13, which are fair. Slight regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	21	308	1,200	250	42	803	196	47	13	31	17
2	11	20	221	2,150	200	50	760	188	43	12	18	14
3	11	19	205	1,270	170	200	760	169	40	13	42	13
4	10	20	248	846	160	1,000	2,510	169	38	32	45	12
5	15	19	205	680	150	1,100	2,150	158	35	25	22	11
6	24	20	197	505	140	940	1,400	154	38	22	14	9.7
7	17	33	177	838	130	666	1,150	147	52	23	12	8.4
8	15	36	155	1,610	110	473	990	136	35	80	9.0	10
9	13	45	140	1,340	100	336	846	129	25	38	8.4	27
10	16	43	91	940	90	242	720	112	24	23	7.8	32
11	16	41	75	690	85	200	1,550	237	35	17	28	21
12	16	39	65	572	85	190	3,460	184	32	15	215	16
13	15	48	60	473	85	240	2,160	173	51	14	247	13
14	12	135	60	386	80	338	1,270	173	38	55	143	16
15	10	97	60	334	80	296	893	169	31	27	86	21
16	10	85	70	275	80	268	720	162	27	23	47	60
17	16	80	200	239	75	254	643	136	22	17	116	544
18	43	75	927	189	75	286	572	126	22	13	47	86
19	31	75	619	170	80	212	537	112	262	11	37	56
20	22	80	434	160	70	242	505	109	133	9.0	28	43
21	20	100	723	160	65	242	473	103	66	7.8	23	34
22	20	206	690	170	75	263	388	119	52	7.0	18	30
23	25	353	572	200	70	184	388	109	42	6.6	32	25
24	34	270	473	275	60	184	361	94	35	5.8	51	40
25	48	197	815	248	50	220	336	100	25	4.6	45	30
26	59	197	700	239	45	176	286	86	22	3.8	31	24
27	41	384	500	261	43	1,170	254	75	22	5.0	23	23
28	30	266	300	294	42	2,000	259	70	23	4.6	30	24
29	25	205	270	505		1,100	220	66	20	5.4	38	259
30	22	248	250	386		720	204	56	18	4.6	28	346
31	22		300	300		606		52		16	21	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					59	10	22.1	0.079		0.09		
November.....					384	19	115	.409		.46		
December.....					927	60	326	1.16		1.34		
January.....					2,150	160	577	2.05		2.36		
February.....					250	42	98.0	.349		.56		
March.....					2,000	42	467	1.66		1.91		
April.....					3,460	204	919	3.27		3.65		
May.....					237	52	131	.466		.54		
June.....					262	18	45.2	.161		.18		
July.....					80		17.3	.063		.07		
August.....					247	7.8	49.3	.177		.20		
September.....					544	8.4	61.5	.219		.24		
The year.....					3,460	3.8	236	.640		11.40		

North Bald Eagle Creek at Milesburg, Pa.

Location.- Staff gage at Milesburg, Centre County, 1,500 feet above Pennsylvania Railroad bridge and half a mile above mouth of Spring Creek. Chain gage at Pennsylvania Railroad bridge used prior to May 19, 1933 and for Mar. 5 to June 13, 1934.

June 13, 1934.  
Drainage area.- 119 square miles (revised).

Records available.- October 1918 to September 1921, May 1933 to September 1934 in reports of U. S. Geological Survey; February 1911 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 19 years (1911-29, 1933-34), 210 second-feet.

Extremes.- Maximum discharge recorded during year ending Sept. 30, 1933, 750 second-feet Aug. 24 (gage height, 3.40 feet); minimum recorded, 4.6 second-feet at times in July and August (gage height, 0.92 foot).

Maximum discharge during year ending Sept. 30, 1934, about 4,470 second-feet Apr. 11 (gage height, 5.3 feet, from graph based on gage readings); minimum, 1.4 second-feet July 27 (gage height, 0.74 foot). June 17, 1916 (discharge uncertain:

1911-34: Maximum gage height, 11.5 feet June 17, 1916 (discharge uncertain; previously published figure probably in error); minimum, less than 1 second-foot at times.

Remarks.- Records fair. Discharge estimated for periods of ice effect, Nov. 16-20, Dec. 10-17, 29-31, Jan. 19-24, Jan. 29 to Mar. 4, Mar. 10-13, 22-25. No records Oct. 1, 1932, to May 18, 1933 due to unstable channel conditions.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									206	17	5.2	12
2									152	28	9.4	9.0
3									126	92	10	18
4									99	42	7.8	42
5									99	27	7.0	22
6									298	19	6.4	17
7									128	14	5.5	14
8									338	12	5.2	13
9									152	12	8.6	10
10									115	12	9.8	8.5
11									98	10	48	11
12									80	8.2	20	10
13									68	8.2	14	8.5
14									47	7.8	14	13
15									51	7.0	7.0	176
16									46	23	5.8	126
17									43	17	5.8	76
18									36	8.6	12	55
19								209	32	7.4	6.4	45
20								197	28	5.8	5.5	58
21								260	22	4.6	6.4	48
22								203	25	7.4	5.2	36
23								138	23	22	7.0	26
24								126	22	12	450	55
25								182	20	56	99	39
26								118	20	24	48	32
27								338	42	15	31	51
28								176	28	12	23	45
29								147	27	10	20	54
30								475	28	7.0	18	30
31								298		6.1	12.	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....												
November.....												
December.....												
January.....												
February.....												
March.....												
April.....												
May..... (19-31)						475	118	221	1.86	0.90		
June.....						338	20	83.3	.700	.78		
July.....						92	4.6	17.9	.150	.17		
August.....						460	5.2	30.1	.253	.29		
September.....						175	8.5	37.2	.313	.35		
The year.....												



North Bald Eagle Creek at Milesburg, Pa.  
Continued

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	28	22	38	266	60	21	375	53	14	12	26	9.0		
2	25	20	38	475	55	25	303	50	12	12	17	7.0		
3	22	18	36	298	50	40	254	51	11	12	40	6.4		
4	18	18	46	235	45	400	578	52	12	19	36	6.7		
5	23	16	44	317	40	1,160	528	48	9.5	17	24	7.5		
6	34	24	40	338	38	380	395	46	11	13	13	6.1		
7	26	49	38	1,030	35	210	1,320	43	13	10	10	7.5		
8	22	43	36	750	33	159	820	32	14	9.0	7.5	14		
9	20	40	34	475	32	137	458	35	8.5	9.0	6.4	30		
10	18	31	30	298	31	120	320	32	14	7.0	6.4	14		
11	20	31	28	235	30	110	2,110	48	16	6.1	21	8.5		
12	22	34	26	186	29	100	2,360	39	19	5.8	16	7.5		
13	20	51	25	165	28	110	785	35	14	66	80	6.1		
14	11	54	25	147	27	137	481	33	11	24	63	14		
15	13	92	27	132	29	84	320	40	10	10	38	50		
16	16	45	35	116	26	81	338	40	7.0	9.0	54	320		
17	27	40	150	103	26	81	303	34	5.8	6.4	60	358		
18	38	40	700	90	27	90	254	30	18	4.0	50	134		
19	21	43	317	76	26	82	239	28	343	3.6	35	85		
20	23	48	278	70	25	76	210	26	114	3.2	26	60		
21	23	43	404	70	25	71	159	26	64	3.0	18	48		
22	23	55	278	72	27	60	137	27	51	2.4	14	50		
23	25	55	209	76	26	50	137	30	101	2.0	13	43		
24	27	53	420	86	25	50	112	25	60	2.0	39	36		
25	34	48	475	103	24	75	93	24	45	1.8	75	32		
26	31	50	317	86	23	56	82	20	34	1.6	30	24		
27	29	53	158	86	21	447	79	18	27	33	25	23		
28	26	50	90	81	20	686	70	17	25	189	22	22		
29	25	45	65	75		375	63	13	21	88	17	798		
30	25	43	55	70		270	57	12	15	53	14	962		
31	23		50	65		239		9.5		36	10			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					38		11		23.8		0.200		0.23	
November.....					92		16		41.8		.351		.59	
December.....					700		25		146		1.23		1.42	
January.....					1,030		65		215		1.81		2.09	
February.....					60		20		31.5		.265		.28	
March.....					1,160		21		193		1.62		1.87	
April.....					2,360		57		458		3.85		4.30	
May.....					53		9.5		32.8		.276		.32	
June.....					343		5.8		37.3		.313		.35	
July.....					189		1.6		21.6		.182		.21	
August.....					80		6.4		29.2		.245		.28	
September.....					962		6.1		106		.891		.99	
The year.....					2,360		1.6		111		.933		12.73	

North Bald Eagle Creek at Beech Creek Station, Pa.

Location.- Water-stage recorder at highway bridge just below mouth of Beech Creek at Beech Creek Station, Clinton County.  
Drainage area.- 559 square miles (revised).  
Records available.- October 1916 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; June 1910 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
Average discharge.- 24 years, 795 second-feet.  
Extremes.- Maximum discharge during year, 6,120 second-feet Apr. 12; maximum gage height, 6.77 feet Mar. 4 (affected by ice); minimum discharge, 119 second-feet July 23 (gage height, 1.42 feet); minimum daily discharge, 141 second-feet July 23.  
 1910-34: Maximum discharge (estimated), 18,600 second-feet June 17, 1916 (gage height, 12.5 feet); minimum, 15 second-feet Jan. 9, 1931 (gage height, 1.12 feet); minimum daily discharge (estimated), 25 second-feet Jan. 22, 23, 1931.  
Remarks.- Records fair. Discharge estimated for periods of ice effect, Nov. 16-19, Dec. 11-17, Dec. 28 to Jan. 9, Jan. 18-22, Jan. 29 to Mar. 4, Mar. 10-13, 25-27. Some regulation at low stages from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	242	216	332	700	340	150	1,360	430	216	258	234	153
2	238	216	314	4,180	330	180	1,200	414	205	246	216	157
3	234	216	323	1,750	320	400	1,120	408	198	238	278	150
4	223	223	328	884	310	2,200	1,340	408	198	238	258	179
5	266	220	323	864	300	2,560	3,560	392	198	234	223	216
6	278	234	309	1,020	290	1,030	1,780	371	198	230	191	177
7	242	250	309	2,210	280	598	3,070	361	223	227	174	157
8	223	266	296	2,450	270	476	2,460	342	205	216	163	200
9	223	254	283	1,770	260	377	1,950	332	205	209	163	274
10	216	246	242	1,410	260	330	1,620	323	216	198	170	209
11	209	242	220	1,140	260	310	3,210	366	220	194	270	180
12	205	246	180	945	250	300	4,830	342	212	191	220	174
13	202	266	170	846	240	350	3,000	318	216	216	252	166
14	198	318	170	779	240	519	2,260	309	198	234	314	184
15	194	287	170	692	250	398	1,770	318	194	205	254	234
16	191	250	200	655	240	414	1,600	328	188	184	250	775
17	250	250	450	598	230	408	1,480	305	184	177	296	1,470
18	254	260	1,610	490	240	414	1,250	292	188	166	258	671
19	230	270	973	430	230	425	1,200	283	940	160	227	459
20	212	287	890	400	220	371	1,100	274	640	160	216	371
21	205	274	1,180	400	220	366	954	266	470	150	205	314
22	202	300	992	410	230	366	846	266	419	157	188	323
23	242	332	846	470	220	309	796	283	580	141	188	300
24	242	347	796	453	200	283	731	270	476	144	238	266
25	274	347	1,350	419	180	318	655	270	408	147	318	238
26	258	352	1,130	425	170	328	598	262	366	144	234	234
27	238	377	954	387	160	1,050	565	250	342	292	202	227
28	234	366	754	430	150	1,830	519	238	318	1,260	198	220
29	227	347	600	390		1,210	476	238	287	476	198	1,200
30	223	337	550	370		1,000	448	230	270	305	174	2,480
31	220		550	350		1,030		227		262	157	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					278	191	229	0.410		0.47		
November.....					377	216	280	.501		.56		
December.....					1,610	170	574	1.03		1.19		
January.....					4,160	350	926	1.86		1.91		
February.....					340	150	246	.440		.46		
March.....					2,560	150	655	1.17		1.35		
April.....					4,830	448	1,602	2.87		3.20		
May.....					430	227	313	.560		.65		
June.....					940	184	306	.547		.61		
July.....					1,260	141	247	.442		.51		
August.....					318	157	223	.399		.46		
September.....					2,480	160	412	.737		.82		
The year.....					4,830	141	502	.898		12.19		



Pine Creek at Cedar Run, Pa.

Location.- Water-stage recorder at highway bridge at Cedar Run, Lycoming County.  
Zero of gage is 781.96 feet above mean sea level.  
Drainage area.- 604 square miles (revised).  
Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; July 1918 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
Average discharge.- 15 years (1919-34), 721 second-feet.  
Extremes.- Maximum discharge during year, 5,980 second-feet Apr. 12; maximum gage height, 8.65 feet Mar. 4 (affected by ice); minimum discharge, 19 second-feet July 26 (gage height, 0.87 foot).  
1918-34: Maximum discharge (estimated), 16,700 second-feet Apr. 6, 7, 1924 (gage height, 8.6 feet, from graph based on gage readings); minimum, 5.1 second-feet Sept. 6, 1929 (gage height, 0.86 foot).  
Remarks.- Records good except those estimated for periods of ice effect, Nov. 15-22, Dec. 10-17, Dec. 26 to Jan. 1, Jan. 18-20, Jan. 28 to Mar. 4, Mar. 9-14, 24-26, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	224	772	1,100	280	110	2,070	573	165	57	64	60
2	147	214	792	2,590	270	180	1,700	549	155	51	71	54
3	139	204	782	2,190	250	400	1,540	533	141	56	89	49
4	127	195	792	1,810	240	2,500	2,110	526	342	88	156	51
5	135	191	720	1,500	230	2,770	2,100	510	307	82	91	54
6	168	200	622	1,300	220	1,970	1,940	496	223	71	60	46
7	155	200	568	1,500	210	1,300	2,120	473	185	85	46	43
8	139	224	515	1,940	200	1,040	1,940	437	150	219	39	76
9	127	240	480	1,620	190	750	1,720	422	133	156	35	303
10	120	219	400	1,490	190	600	1,570	422	128	90	33	236
11	116	204	360	1,290	190	500	3,230	533	150	65	37	150
12	109	209	340	1,150	190	500	5,590	466	155	57	100	111
13	106	224	320	1,020	180	750	4,150	422	155	49	240	96
14	98	380	300	926	170	1,000	3,040	415	141	46	171	85
15	98	340	300	803	170	696	2,380	408	120	42	112	96
16	95	270	350	680	160	613	1,940	387	100	108	89	508
17	156	240	500	604	150	549	1,720	367	89	117	82	298
18	219	230	1,930	500	150	630	1,470	347	80	70	89	678
19	168	230	792	480	150	518	1,360	320	450	52	68	454
20	147	230	772	480	140	533	1,280	301	407	41	54	354
21	135	250	891	515	140	503	1,190	282	210	37	49	276
22	131	500	814	454	150	597	1,070	282	155	33	52	288
23	168	937	782	515	140	473	1,030	288	124	29	70	307
24	203	902	784	541	120	420	963	263	107	25	103	234
25	418	814	1,740	488	110	380	882	263	93	22	100	195
26	562	772	1,400	454	100	400	833	251	82	20	89	170
27	306	824	1,200	416	100	2,710	793	234	78	25	63	160
28	283	730	950	390	100	3,210	737	211	78	56	71	155
29	266	680	800	360		1,590	674	195	75	142	172	382
30	245	700	700	320		1,290	613	180	65	82	114	718
31	229		800	290		1,250		175		63	63	
Month						Maximum	Minimum	Mean	Per square mile	Run-off in inches		
October.....						418	95	176	0.291	0.34		
November.....						937	191	393	.651	.73		
December.....						1,930	300	751	1.24	1.43		
January.....						2,590	290	959	1.59	1.83		
February.....						280	100	175	.290	.30		
March.....						3,210	110	991	1.64	1.89		
April.....						5,690	613	1,792	2.97	3.31		
May.....						573	175	372	.616	.71		
June.....						450	65	161	.267	.30		
July.....						219	20	68.9	.114	.13		
August.....						240	33	86.2	.143	.16		
September.....						718	43	225	.569	.41		
The year.....						5,590	20	514	.851	11.54		

Lycoming Creek near Trout Run, Pa.

Location.- Chain gage at highway bridge 2 3/4 miles upstream from Trout Run, Lycoming County. Zero of gage is 693.4 feet above mean sea level.

Drainage area.- 173 square miles (revised).

Records available.- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; December 1913 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 17 years (1914-16, 1919-34), 261 second-feet.

Extremes.- Maximum discharge during year, 3,410 second-feet Apr. 11 (gage height, 7.84 feet); minimum, 9.2 second-foot July 27 (gage height, 1.58 feet).  
1913-34: Maximum gage height, 16.3 feet Nov. 16, 1926 (discharge uncertain; previously published figure probably in error); minimum discharge, 6.0 second-foot Sept. 20-22, 1932 (gage height, 1.45 feet).

Remarks.- Records good except those estimated for periods of ice effect, Nov. 17-20, Dec. 11-17, Dec. 27 to Jan. 1, Jan. 18-20, Jan. 31 to Mar. 4, Mar. 10, 11, 24-26, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	103	240	400	120	35	1,010	168	49	21	11	17
2	96	76	209	646	110	50	696	160	43	20	12	16
3	87	98	200	478	110	90	621	166	39	21	16	14
4	83	121	226	433	100	400	1,190	177	43	24	16	19
5	83	114	206	411	100	974	731	160	43	23	14	36
6	83	110	175	368	95	467	696	150	37	23	14	23
7	79	107	170	621	90	212	772	145	31	21	13	17
8	74	123	164	797	85	140	621	131	30	21	11	35
9	70	121	148	721	80	112	572	120	30	21	11	56
10	65	110	126	621	80	100	524	123	31	19	11	39
11	61	107	110	500	80	100	1,720	127	31	17	13	34
12	58	107	100	455	75	110	2,280	116	35	17	14	28
13	56	114	95	368	70	123	1,180	110	35	15	16	24
14	54	212	90	368	65	107	952	106	30	14	14	22
15	51	159	90	306	70	146	696	98	30	19	14	23
16	51	114	100	255	65	130	900	100	27	27	16	240
17	103	100	150	206	55	130	952	86	25	23	16	974
18	112	100	310	180	50	196	772	79	24	23	15	374
19	81	105	262	160	45	164	671	75	250	22	14	191
20	65	120	251	150	45	133	646	75	136	18	11	133
21	61	161	326	140	45	112	524	71	75	14	11	131
22	58	222	297	126	40	105	455	71	55	13	14	223
23	194	347	285	336	40	87	411	82	49	11	16	194
24	146	266	281	313	35	80	368	71	42	11	27	145
25	181	251	571	196	35	80	326	80	35	11	26	125
26	178	270	524	170	30	82	277	79	30	11	24	112
27	175	322	420	178	30	576	258	71	30	10	22	102
28	153	258	350	175	30	609	230	63	30	11	26	108
29	140	216	320	161		390	201	60	26	11	24	279
30	130	233	300	138		347	182	54	23	11	21	598
31	123		310	120		430		49		13	20	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	184	51	98.3	0.568	0.65
November.....	347	76	162	.936	1.04
December.....	571	90	239	1.38	1.69
January.....	797	120	339	1.96	2.26
February.....	120	30	67.0	.387	.40
March.....	974	35	220	1.27	1.46
April.....	2,280	182	714	4.13	4.61
May.....	177	49	104	.601	.69
June.....	230	23	45.8	.265	.30
July.....	27	10	17.3	.100	.12
August.....	27	11	16.2	.094	.11
September.....	974	14	144	.632	.95
The year.....	2,280	10	181	1.05	14.16



Loyalsock Creek at Loyalsock, Pa.

Location.- Water-stage recorder at highway bridge at Loyalsock, Lycoming County.  
Zero of gage is 585.63 feet above mean sea level.

Drainage area.- 443 square miles (revised).  
Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; July 1925 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.—Maximum discharge during year, 10,900 second-feet Apr. 1; maximum gage height, 8.55 feet Mar. 5 (affected by ice); minimum discharge, 22 second-feet Aug. 22 (gage height, 2.56 feet).

1925-34: Maximum discharge (estimated), 34,000 second-feet Nov. 16, 1926 (gage height, 12.3 feet); minimum, 16 second-feet Sept. 18, 19, 22-25, 1932 (gage height, 2.57 feet).

Remarks.—Records good except those prior to Mar. 4, which are fair, and those estimated for periods of ice effect, Nov. 17-20, Dec. 11-19, Dec. 27 to Jan. 1, Jan. 18, 19, Jan. 29 to Mar. 5, Mar. 10-13, 25, 26, which are poor.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	308	380	480	800	350	130	6,420	466	147	80	54	37
2	282	350	428	2,350	350	140	2,750	431	138	71	44	34
3	263	328	420	1,440	300	200	2,040	439	127	68	54	29
4	236	302	420	1,250	280	600	2,440	796	143	71	44	58
5	220	289	412	1,080	260	1,300	2,160	1,240	143	68	44	253
6	220	308	396	996	250	1,430	1,790	847	123	71	39	250
7	214	328	388	1,350	240	701	1,980	683	109	66	34	156
8	200	373	373	2,350	250	502	1,760	578	95	63	27	127
9	200	380	343	1,820	210	391	1,480	502	89	68	24	150
10	214	343	277	1,440	200	360	1,330	466	95	68	24	147
11	191	322	250	1,220	200	330	1,940	511	122	58	24	112
12	177	308	240	1,010	200	320	4,650	484	134	49	32	86
13	168	315	250	927	190	320	2,870	407	120	44	44	71
14	155	494	250	849	180	324	2,220	375	102	41	41	74
15	147	488	230	762	180	277	2,110	367	95	49	59	74
16	143	351	260	658	180	352	2,370	367	86	54	39	1,150
17	214	320	450	594	170	455	3,180	338	77	39	37	6,040
18	405	320	800	540	170	611	2,270	296	71	37	34	1,820
19	302	330	740	480	170	416	1,860	271	577	57	32	1,010
20	231	340	679	462	160	383	1,760	247	1,000	59	27	672
21	200	358	810	428	160	359	1,480	229	478	59	24	484
22	186	555	798	388	170	391	1,240	229	296	30	23	448
23	369	862	774	690	170	272	1,100	247	214	27	45	910
24	664	750	750	1,080	160	244	990	253	169	26	89	628
25	1,290	658	1,950	762	150	230	859	235	138	26	142	466
26	910	626	1,390	689	140	230	774	265	120	26	134	383
27	669	647	1,100	564	130	572	694	271	109	24	86	351
28	554	564	850	564	130	2,150	639	224	102	30	66	317
29	480	516	750	580		1,300	559	193	102	33	54	783
30	437	488	650	500		1,050	511	178	89	78	49	2,860
31	403		650	400		1,450		160		68	42	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....						1,290	143	344	0.777		0.90	
November.....						862	289	433	.977		1.09	
December.....						1,930	230	597	1.35		1.56	
January.....						2,350	388	934	2.11		2.43	
February.....						350	130	202	.456		.47	
March.....						2,130	130	573	1.29		1.49	
April.....						6,420	511	1,938	4.57		4.88	
May.....						1,240	160	406	.916		1.06	
June.....						1,000	86	180	.406		.45	
July.....						80	24	49.9	.113		.13	
August.....						142	23	48.1	.109		.13	
September.....						6,040	29	664	1.50		1.67	
The year.....						6,420	23	550	1.20		16.26	

Penn Creek at Penns Creek, Pa.

Location.- Water-stage recorder at bridge on State highway 104, three quarters of a mile northeast of Penns Creek, Union County.

Records available.— October 1931 to September 1934 in reports of U. S. Geological Survey; October 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, about 12,900 second-feet Sept. 16 (gage height, 13.00 feet); minimum, 29 second-feet Aug. 31 (gage height, 1.17 feet); minimum daily discharge, 64 second-feet July 24.

1929-34: Maximum discharge, that of Sept. 16, 1934; minimum, 7.0 second-feet Sept. 27, 1932 (gage height, 0.85 foot); minimum daily discharge, 26 second-feet Nov. 28-30, 1930.

Remarks.- Records good except those for high stages and those estimated for periods of ice effect, Nov. 16-18, Dec. 11-17, Dec. 27 to Jan. 6, Jan. 30 to Mar. 4, Mar. 24-27, which are fair. Regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	162	120	123	200	230	150	1,040	348	161	109	118	73
2	140	112	120	300	230	160	820	332	148	113	108	80
3	141	114	122	250	230	200	727	376	144	112	120	71
4	138	114	127	250	230	600	883	418	141	120	158	100
5	148	109	130	300	220	1,950	915	368	136	114	107	182
6	194	130	122	450	220	751	820	332	138	104	98	193
7	161	147	107	887	220	436	1,180	305	199	110	80	132
8	141	152	112	1,250	210	344	1,220	301	157	122	78	194
9	144	144	107	1,080	200	278	1,080	278	125	127	80	294
10	144	136	92	915	190	259	980	278	141	112	86	220
11	133	136	85	788	190	218	1,210	324	147	98	223	162
12	130	127	80	668	200	238	2,640	297	133	95	134	133
13	130	133	76	623	200	300	2,270	274	144	90	155	120
14	112	147	75	591	190	358	2,060	263	127	92	243	191
15	117	150	76	524	200	342	1,140	274	112	88	173	216
16	109	140	90	471	200	275	1,110	282	107	85	142	3,160
17	162	130	150	404	190	245	1,040	252	95	90	213	7,090
18	192	150	369	401	180	255	883	241	102	80	168	2,490
19	150	141	346	385	180	234	820	230	599	74	127	1,580
20	133	140	270	383	180	216	758	216	466	74	112	1,140
21	120	140	340	336	180	206	698	213	289	68	105	915
22	112	136	305	320	190	220	634	206	280	68	88	1,000
23	158	138	263	372	190	196	601	241	223	68	88	758
24	146	130	255	353	180	190	549	203	209	64	166	601
25	165	130	333	324	170	180	504	224	177	74	251	519
26	164	127	324	301	160	180	462	230	155	84	146	467
27	138	134	250	289	150	300	440	203	144	80	118	444
28	133	133	200	289	150	995	405	186	138	570	118	462
29	120	126	160	234		629	334	180	122	311	98	950
30	117	129	140	230		544	364	183	122	171	88	2,140
31	117		140	230		658		180		132	80	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	194	109	140	0.465	0.54
November.....	150	109	133	.442	.49
December.....	369	75	177	.588	.68
January.....	1,250	230	464	1.54	1.78
February.....	230	150	195	1.648	.67
March.....	1,950	150	391	1.30	1.50
April.....	2,640	364	955	3.17	3.54
May.....	418	180	266	.894	1.02
June.....	599	95	177	.588	.66
July.....	570	64	119	.395	.46
August.....	251	78	133	.442	.51
September.....	7,090	71	869	2.99	3.22
The year.....	7,090	64	334	1.11	15.07



## Mahantango Creek East near Dalmatia, Pa.

Location.- Water-stage recorder at highway bridge 2 miles above mouth and  $3\frac{1}{4}$  miles south of Dalmatia, Northumberland County.

Drainage area.- 162 square miles.

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; October 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 2,440 second-feet Sept. 17; maximum gage height, 6.85 feet Mar. 4 (affected by ice); minimum discharge, 4.4 second-feet Sept. 2 (gage height, 1.04 feet).

1929-34: Maximum gage height, 13.66 feet Aug. 24, 1933 (discharge not determined); minimum discharge, 1.5 second-feet Sept. 21, 1932 (gage height, 0.84 foot).

Remarks.- Records good except those estimated for periods of ice effect, Nov. 17-19, Dec. 11-17, Dec. 28 to Jan. 6, Jan. 30 to Mar. 5, Mar. 10-13, and those based on scattered chain-gage readings for the period of recorder failure, Apr. 21 to June 22, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	120	82	49	60	110	35	906	130	90	25	13	9.4		
2	167	78	44	100	110	50	956	124	83	24	13	7.4		
3	131	75	45	150	100	100	700	150	78	22	25	8.0		
4	108	69	54	160	90	350	602	300	74	22	52	104		
5	108	65	57	200	80	1,000	526	210	70	29	24	138		
6	114	79	51	300	70	414	433	180	65	25	16	63		
7	99	87	53	894	65	211	414	167	75	19	12	41		
8	96	81	47	1,110	60	140	391	160	65	24	10	38		
9	92	75	47	723	55	97	332	149	55	28	10	41		
10	82	72	36	532	50	80	297	150	60	22	9.2	39		
11	76	68	32	419	50	75	321	180	71	17	46	30		
12	71	64	31	346	50	75	787	172	65	14	58	21		
13	72	64	30	310	48	85	908	160	57	15	64	23		
14	64	65	30	297	48	121	745	158	52	14	104	28		
15	60	68	31	246	45	108	594	160	48	14	64	47		
16	58	50	40	214	47	117	510	180	45	22	51	165		
17	172	50	70	187	44	117	497	172	42	55	46	1,560		
18	206	54	171	155	43	124	414	170	40	25	39	588		
19	127	60	154	184	42	142	364	163	350	19	32	311		
20	108	63	128	152	40	124	414	150	150	16	27	213		
21	99	62	141	146	41	113	332	145	70	12	23	155		
22	90	57	139	137	42	110	290	140	47	11	16	163		
23	126	57	133	171	38	99	258	130	53	13	15	370		
24	128	53	128	211	33	74	250	121	51	11	15	221		
25	124	50	128	157	32	78	245	130	42	14	15	172		
26	108	50	118	150	31	98	220	150	36	17	16	147		
27	103	54	98	141	30	103	190	120	36	16	15	130		
28	97	54	65	144	30	482	172	106	33	14	12	117		
29	89	50	55	139		572	160	100	30	13	12	175		
30	85	47	50	120		449	132	106	26	11	13	942		
31	82		50	110		459		100		14	10			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					206		50		105		0.648		0.75	
November.....					87		47		63.4		.591		.44	
December.....					171		30		74.0		.457		.53	
January.....					1,110		60		270		1.57		1.92	
February.....					110		30		54.3		.335		.35	
March.....					1,000		35		200		1.23		1.42	
April.....					956		132		442		2.73		3.05	
May.....					300		100		153		.944		1.09	
June.....					350		26		68.6		.423		.47	
July.....					55		11		19.3		.119		.14	
August.....					104		9.2		28.3		.172		.20	
September.....					1,560		7.4		202		1.25		1.40	
The year.....					1,560		7.4		140		.964		11.76	

## Frankstown Branch of Juniata River at Williamsburg, Pa.

Location.- Water-stage recorder at highway bridge at Williamsburg, Blair County. Zero of gage is 831.78 feet above mean sea level.

Drainage area.- 291 square miles (revised).

Records available.- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; October 1916 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 15 years (1919-34), 374 second-feet.

Extremes.- Maximum discharge during year, 4,320 second-feet Sept. 17 (gage height, 8.63 feet); minimum, 13 second-feet July 24 (gage height, 0.97 foot); minimum daily discharge, 44 second-feet July 25.

1916-34: Maximum discharge, about 13,000 second-feet Oct. 23, 1929 (gage height, 13.9 feet); minimum, that of July 24, 1934; minimum daily discharge (estimated), 31 second-feet Dec. 24, 25, 1930.

Maximum stage known, about 19.1 feet in 1889 (discharge not determined).

Remarks.- Records good except those estimated for periods of ice effect, Dec. 13-16, Dec. 28 to Jan. 1, Jan. 19, 28, 29, Jan. 31 to Mar. 13, which are poor. Regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	67	88	700	140	74	515	182	85	75	60	54
2	85	68	85	787	130	90	448	172	82	70	56	53
3	81	66	87	564	122	200	372	174	76	71	169	52
4	79	66	122	464	115	600	456	182	78	69	101	57
5	88	68	126	975	110	1,500	568	165	73	70	66	58
6	96	106	110	831	105	800	515	156	68	67	57	55
7	83	111	102	2,010	98	550	716	147	70	63	54	54
8	80	89	97	2,280	95	420	604	136	70	69	54	56
9	82	82	92	1,310	92	370	550	140	70	74	55	70
10	79	82	78	930	88	320	498	131	96	66	66	60
11	75	80	78	682	85	290	648	154	105	61	68	54
12	72	83	72	547	82	270	831	131	83	58	74	639
13	71	85	70	496	80	250	623	126	74	60	76	244
14	70	94	68	464	78	356	568	140	70	63	70	230
15	68	87	68	402	75	269	515	136	67	64	73	206
16	68	77	150	347	73	275	643	151	65	59	123	1,320
17	94	82	757	289	71	269	617	124	62	52	193	1,860
18	101	100	1,300	239	70	313	515	110	72	51	101	450
19	79	124	647	225	70	290	481	107	513	49	78	283
20	77	114	666	219	70	275	448	104	202	51	68	208
21	72	106	800	215	70	254	387	100	127	57	61	167
22	71	108	547	220	70	257	372	101	114	50	58	182
23	76	116	448	257	70	212	372	112	170	53	56	152
24	80	108	386	240	70	190	316	100	130	45	102	128
25	74	106	472	218	70	215	286	104	104	44	142	116
26	73	111	371	220	70	232	252	99	92	47	84	107
27	69	109	246	206	70	391	252	94	88	57	68	244
28	70	105	180	250	70	835	239	92	84	182	62	159
29	68	98	160	210		515	206	91	80	93	59	880
30	68	94	160	174		464	217	89	75	64	57	1,950
31	68		170	150		464		88		61	56	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					101	68	77.6	0.267		0.31		
November					124	66	93.1	.320		.36		
December					1,300	68	284	.976		1.13		
January					2,280	150	552	1.90		2.19		
February					140	70	86.0	.296		.31		
March					1,500	74	381	1.31		1.51		
April					831	206	468	1.61		1.80		
May					182	88	127	.435		.50		
June					513	62	105	.361		.40		
July					182	44	65.0	.223		.26		
August					193	54	79.6	.274		.32		
September					1,950	52	338	1.16		1.29		
The year					2,280	44	222.	.763		10.38		



Juniata River at Newport, Pa.

Location.- Water-stage recorder at highway bridge at Newport, Perry County. Zero of gage is 363.16 feet above mean sea level.

Drainage area.- 3,354 square miles (revised).

Records available.- March 1899 to December 1913, October 1918 to September 1921, October 1923 to September 1926, October 1931 to September 1934 in reports of U. S. Geological Survey; March 1899 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 33 years (1899-1905, 1907-34), 4,412 second-feet.

Extremes.- Maximum discharge during year, 35,300 second-feet Sept. 17 (gage height, 12.84 feet); minimum, 397 second-feet July 26 (gage height, 2.93 feet).  
1899-1934: Maximum discharge, about 114,000 second-feet Mar. 1, 1902 (gage height, 25.3 feet); minimum (estimated), 280 second-feet Aug. 27, 1925 (gage height, 2.71 feet); minimum daily discharge, 286 second-feet Sept. 25, 1932.

Maximum stage known, 35.9 feet Jan. 1, 1889 (discharge not determined).

Remarks.- Records good except those estimated for periods of ice effect, Dec. 13-17, 28-31, Feb. 1 to Mar. 5, which are fair. Discharge based on chain-gage readings for periods of recorder failure, Oct. 5-9, Dec. 27 to Jan. 16, Jan. 30 to Feb. 6. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	1,230	807	776	2,270	1,500	740	7,980	2,320	934	791	754	541		
2	1,180	886	791	3,860	1,400	850	7,840	2,120	870	732	554	482		
3	1,080	791	747	6,070	1,500	1,000	6,380	2,230	839	673	634	460		
4	1,080	823	747	6,380	1,250	2,000	5,620	2,790	776	644	870	482		
5	1,160	747	776	5,040	1,200	12,500	5,920	2,860	688	732	982	704		
6	1,370	791	807	7,000	1,150	11,200	6,680	2,560	703	673	998	644		
7	1,330	934	870	12,400	1,100	6,070	7,980	2,440	714	682	847	567		
8	1,080	950	870	19,400	1,050	5,180	9,680	2,100	790	718	618	644		
9	998	950	823	23,200	1,000	3,840	9,330	1,920	791	902	567	950		
10	934	1,030	814	14,500	970	3,170	7,810	1,800	776	839	870	950		
11	823	950	792	9,680	940	2,790	7,160	1,780	732	718	1,830	673		
12	807	966	722	7,160	920	2,270	10,600	1,670	886	732	829	1,210		
13	791	934	680	5,770	900	1,880	12,000	1,730	902	673	587	856		
14	747	950	620	5,180	880	2,270	9,680	1,650	886	592	493	2,250		
15	732	853	630	4,480	860	2,790	7,980	1,580	747	532	580	2,210		
16	762	746	850	4,080	850	2,770	7,160	1,710	732	670	659	4,630		
17	1,080	949	1,250	3,760	850	2,700	7,980	1,760	718	718	807	31,200		
18	1,080	982	2,580	3,170	860	2,480	7,810	1,690	631	592	1,080	18,600		
19	1,090	886	5,270	3,000	920	2,500	6,680	1,590	1,240	592	1,330	10,500		
20	1,160	1,010	4,900	2,540	850	2,430	6,530	1,550	2,320	592	1,470	5,620		
21	1,060	982	4,340	2,340	800	2,340	6,070	1,390	3,340	605	1,160	4,340		
22	966	982	4,480	2,200	760	2,360	5,480	1,180	2,540	528	950	4,400		
23	950	918	4,080	2,340	720	2,140	4,900	1,260	2,250	450	791	3,320		
24	1,050	934	3,470	2,560	700	2,000	4,480	1,200	2,330	439	644	3,050		
25	1,060	916	2,770	2,370	680	1,870	3,730	1,230	2,080	417	673	2,630		
26	1,080	893	3,050	2,260	670	1,840	3,580	1,240	1,500	397	662	2,490		
27	1,030	856	2,320	2,200	660	2,000	3,220	1,160	1,180	428	1,010	2,490		
28	950	791	2,000	2,120	660	4,260	2,860	1,090	1,060	570	855	2,040		
29	950	839	1,800	1,930		7,640	2,580	1,030	1,060	567	703	2,670		
30	870	791	1,700	1,880		6,220	2,540	1,050	832	1,340	644	8,460		
31	886		1,900	1,390		6,070		968		1,350	580			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					1,370		732		1,012		0.502		0.35	
November.....					1,030		746		896		.267		.30	
December.....					5,270		620		1,878		.560		.85	
January.....					23,200		1,390		5,565		1.66		1.91	
February.....					1,500		660		943		.281		.29	
March.....					12,500		740		3,554		1.06		1.22	
April.....					12,000		2,540		6,601		1.97		2.20	
May.....					2,860		968		1,698		.506		.68	
June.....					3,340		651		1,195		.356		.40	
July.....					1,350		397		674		.201		.23	
August.....					1,830		493		839		.250		.29	
September.....					31,200		460		3,985		1.19		1.33	
The year.....					31,200		397		2,407		.718		9.75	

Shaver Creek near Petersburg, Pa.

Location.- Chain gage at highway bridge  $3\frac{1}{2}$  miles northeast of Petersburg, Huntingdon County, and  $4\frac{1}{2}$  miles above mouth.

Drainage area.- 46.4 square miles (revised).

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; October 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge recorded during year, 737 second-feet Apr. 11 (gage height, 4.88 feet); minimum, 1.2 second-feet July 24-26 (gage height, 0.50 foot). 1929-34: Maximum discharge, about 1,340 second-feet Apr. 7, 1933 (gage height, 7.0 feet, from graph based on gage readings); minimum, 0.9 second-foot Sept. 19, 1932 (gage height, 0.46 foot).

Remarks.- Records fair except those for extremely high and low stages and those estimated for periods of ice effect, Nov. 15, 16, 21, Dec. 11-17, Dec. 25 to Jan. 5, Jan. 18, 19, 23-25, Jan. 29 to Mar. 4, Mar. 11, 12, 24-26, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	7.4	7.1	50	18	6	126	32	9.6	5.4	2.9	3.6
2	6.8	6.1	6.8	380	16	7	94	30	8.8	5.4	2.7	2.7
3	6.1	6.1	7.8	150	15	20	80	36	9.2	4.9	34	2.9
4	5.7	5.4	13	80	14	100	160	34	8.8	7.4	13.	5.4
5	17	6.8	9.6	90	12	414	114	28	7.8	5.7	5.7	15
6	11	12	8.5	101	11	100	92	28	10	6.4	4.2	7.4
7	8.8	13	7.8	389	11	74	248	26	12	6.1	3.2	5.4
8	6.8	10	7.1	201	10	58	146	23	7.4	5.4	2.6	6.1
9	9.6	9.6	7.4	132	9	58	114	22	7.4	4.6	4.9	8.5
10	7.1	9.2	7.4	101	9	40	98	22	8.5	4.4	5.2	6.1
11	5.4	11	7	82	8	36	365	34	15	3.6	5.7	4.4
12	6.1	8.5	7	72	8	34	257	25	7.8	3.9	5.4	5.4
13	5.7	9.6	7	68	7	54	168	23	7.4	6.9	6.4	7.4
14	4.6	11	7	64	7	46	139	22	6.8	5.4	6.4	26
15	4.8	12	8	58	7	43	120	25	5.4	4.4	3.9	21
16	4.9	10	10	50	6	35	210	24	5.7	3.4	10	160
17	22	9.2	30	46	6	29	146	20	5.4	2.9	12	84
18	12	10	132	43	6	37	108	18	5.2	2.2	5.2	31
19	7.8	10	53	40	6	35	101	17	126	2.6	4.6	22
20	6.8	11	86	38	6	27	89	16	22	2.4	3.9	16
21	6.1	10	77	35	6	27	76	15	13	2.6	3.4	14
22	6.1	10	53	33	6	28	67	16	8.1	2.2	2.7	22
23	6.1	10	40	40	6	23	68	15	44	1.9	2.6	16
24	6.1	9.6	35	50	6	23	61	13	22	1.5	15	18
25	8.1	8.5	30	40	6	25	54	12	13	1.4	18	10
26	8.1	7.8	26	31	6	32	50	12	8.8	1.4	7.1	8.8
27	7.4	10	23	30	6	160	44	13	8.5	36	4.4	10
28	7.4	12	21	34	6	219	40	12	7.4	33	4.4	9.6
29	6.8	10	20	28		90	38	10	7.4	9.6	14	192
30	5.7	7.8	20	24		76	34	11	6.1	4.9	5.7	201
31	6.4		20	20		82		11		3.6	3.9	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches.			
October.....					22	4.6	7.77	0.167	0.19			
November.....					13	5.4	9.45	.204	.23			
December.....					132	6.8	25.6	.552	.64			
January.....					380	20	83.9	1.81	2.09			
February.....					18	6	8.57	.185	.19			
March.....					414	6	65.7	1.42	1.64			
April.....					365	34	117	2.52	2.81			
May.....					36	10	20.8	.448	.52			
June.....					126	5.2	14.5	.312	.35			
July.....					36	1.4	6.17	.133	.15			
August.....					34	2.6	7.20	.155	.18			
September.....					201	2.7	31.4	.677	.76			
The year.....					414	1.4	33.3	.718	9.75			



Standing Stone Creek near Huntingdon, Pa.

Location.- Water-stage recorder at bridge on State highway 545,  $3\frac{1}{4}$  miles northeast of Huntington, Huntington County, and  $3\frac{1}{4}$  miles above mouth.

Drainage area.- 128 square miles.

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; October 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 1,030 second-feet Apr. 12 (gage height, 4.31 feet); minimum, 12 second-feet Sept. 3, 4 (gage height, 0.91 foot).  
1929-34: Maximum discharge, about 2,240 second-feet May 8, 1931 (gage height, 6.75 feet); minimum, 2.8 second-feet Feb. 11, 1931 (gage height, 0.64 foot); minimum daily discharge, 7.6 second-feet Sept. 12-14, 18-26, 1932.

Maximum stage known, 9.38 feet June 1, 1889 (discharge not determined).

Remarks.- Records good except those estimated for periods of ice effect, Nov. 17, Dec. 11-17, Dec. 28 to Jan. 1, Jan. 18-23, Jan. 30 to Mar. 4, Mar. 11-13, 24-26, and for period of recorder failure, Sept. 27-30, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	33	31	100	53	32	395	92	33	28	17	14
2	34	32	31	463	50	35	294	88	31	25	16	13
3	35	32	33	273	48	50	247	92	29	26	47	12
4	31	29	40	158	47	150	328	109	27	28	34	14
5	46	31	42	257	45	896	348	93	27	25	24	22
6	64	38	38	297	43	443	278	86	33	27	19	23
7	43	49	35	583	42	224	552	81	55	37	16	18
8	39	46	34	702	40	141	445	76	39	59	16	17
9	39	44	33	409	39	104	334	69	31	31	14	27
10	38	42	28	294	38	96	278	69	40	25	15	27
11	34	40	28	232	36	85	468	84	50	21	16	18
12	33	37	28	192	35	80	790	77	36	20	20	22
13	29	39	28	177	34	80	478	69	30	22	20	24
14	28	45	28	165	33	106	362	65	27	24	25	24
15	28	45	30	142	32	107	300	69	24	21	21	29
16	29	44	40	130	32	106	400	77	23	19	21	176
17	46	44	75	116	31	105	412	66	22	21	32	531
18	62	43	389	105	31	90	310	59	25	17	26	130
19	42	42	171	95	30	81	274	52	299	17	19	79
20	37	44	169	90	30	77	250	50	119	17	16	63
21	33	41	200	85	30	74	210	48	57	17	17	52
22	30	42	145	85	30	81	187	46	83	17	14	53
23	35	42	119	90	30	57	179	48	83	15	15	50
24	35	40	105	112	30	50	160	45	94	16	20	41
25	41	38	115	94	30	50	142	45	59	15	50	37
26	44	35	101	90	30	60	128	45	44	16	32	35
27	40	37	70	105	30	201	121	41	39	33	20	35
28	35	33	60	83	30	639	113	37	36	31	19	35
29	34	38	55	61		325	103	37	32	39	20	100
30	32	34	50	60		255	97	35	29	23	18	400
31	33		50	56		228		36		20	15	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					64	28	37.6	0.294	0.34			
November.....					49	29	39.3	.307	.34			
December.....					389	28	77.1	.602	.69			
January.....					702	56	190	1.48	1.71			
February.....					83	30	36.0	.281	.29			
March.....					896	32	164	1.28	1.48			
April.....					97	299	2.34		2.61			
May.....					109	35	64.1	.501	.58			
June.....					299	22	51.9	.406	.45			
July.....					59	15	24.9	.195	.22			
August.....					50	14	21.7	.170	.20			
September.....					531	12	70.7	.552	.62			
The year.....					896	12	89.9	.702	9.53			

Raystown Branch of Juniata River at Saxton, Pa.

Location.-- Water-stage recorder at highway bridge half a mile west of Saxton, Bedford County. Zero of gage is 794.73 feet above mean sea level. Chain gage at same site and datum used prior to Mar. 13, 1934.

Drainage area.- 756 square miles (revised).

Records available.— October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1911 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 23 years, 928 second-feet.

Extremes.— Maximum discharge during year, 7,800 second-feet Jan. 8 (gage height, 7.21 feet); minimum, 64 second-feet July 26 (gage height, 0.94 foot); minimum daily discharge, 73 second-feet July 23.

1911-34: Maximum discharge, about 29,000 second-feet May 12, 13, 1924 (gage height, 13.6 feet, from graph based on gage readings); minimum, 52 second-feet Oct. 17, 18, 1930.

Maximum stage known, 24.64 feet in 1889 (discharge not determined).

Remarks.— Maximum stage known, 24.64 feet in 1889 (discharge not determined).  
Records good except those estimated for periods of ice effect, Nov. 15-18,  
Dec. 10-12, 14-17, Dec. 26 to Jan. 2, Jan. 19-22, Jan. 29 to Mar. 4, and for period  
of missing gage-height record, May 3-9, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	166	150	173	600	210	130	1,240	342	173	137	123	106
2	184	153	166	1,800	190	150	1,170	325	170	125	108	94
3	304	150	166	1,550	178	200	983	350	163	123	165	97
4	224	147	173	810	170	300	1,030	400	180	120	118	94
5	188	140	177	1,980	163	2,130	2,790	380	147	109	150	98
6	181	166	184	4,080	158	3,660	2,480	340	134	114	147	104
7	166	173	184	6,090	152	1,630	2,620	315	137	106	120	125
8	159	199	173	6,320	148	1,090	2,420	285	134	109	109	120
9	170	224	163	3,590	144	855	1,920	270	134	104	112	106
10	153	207	152	2,290	140	683	1,630	255	170	104	112	96
11	156	184	140	1,740	136	566	1,520	260	163	106	131	96
12	153	181	130	1,300	133	528	1,920	255	191	104	173	106
13	150	177	124	1,090	130	464	1,680	255	181	99	166	109
14	153	191	120	1,040	128	612	1,450	241	159	104	181	112
15	147	186	120	855	126	725	1,290	269	144	120	159	134
16	144	178	130	725	124	596	1,200	310	134	240	209	468
17	156	170	200	566	122	603	1,310	336	123	163	492	3,880
18	166	180	1,720	426	120	580	1,130	294	125	120	784	1,720
19	184	211	1,540	375	120	603	1,030	255	644	101	396	826
20	188	211	1,020	345	120	536	992	241	1,240	87	233	536
21	173	207	1,050	330	120	507	882	228	572	84	211	394
22	166	195	954	320	120	486	776	220	394	79	184	353
23	184	195	785	420	120	472	708	220	320	73	156	331
24	177	199	643	320	120	413	667	211	274	75	147	294
25	166	195	643	336	120	348	580	216	260	82	140	245
26	166	195	500	377	120	388	514	216	216	87	140	216
27	159	191	400	400	120	498	472	220	188	105	170	207
28	156	191	320	394	120	1,490	439	211	166	104	156	524
29	156	188	300	320		1,600	407	195	153	99	134	577
30	159	181	300	270		1,420	371	188	144	168	120	2,120
31	140		350	230		1,230		181		150	109	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					304	140	171	0.226		0.26		
November.....					224	140	184	.243		.27		
December.....					1,720	120	426	.563		.65		
January.....					6,320	230	1,325	1.75		2.02		
February.....					210	120	138	.183		.19		
March.....					3,660	130	829	1.10		1.27		
April.....					2,790	371	1,254	1.66		1.85		
May.....					400	181	267	.353		.41		
June.....					1,240	123	243	.321		.36		
July.....					240	73	113	.149		.17		
August.....					784	108	190	.251		.29		
September.....					3,880	91	469	.620		.69		
The year.....					6,320	73	469	.620		8.43		



Dunning Creek at Yount, Pa.

Location.- Chain gage at highway bridge at Yount, Bedford County, 3 miles upstream from mouth.

Drainage area.- 191 square miles.

Records available.-- October 1931 to September 1934 in reports of U. S. Geological Survey; November 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge during year, about 3,300 second-feet Jan. 7 (gage height, 8.2 feet, from graph based on gage readings); minimum, 9.8 second-feet July 25 (gage height, 0.54 foot).

1929-34: Maximum discharge, about 3,660 second-feet Mar. 15, 1933 (gage height, 8.8 feet, from graph based on gage readings); minimum, 4.9 second-feet July 28, 1930 (gage height, 0.46 foot).

Remarks.— Records good except those estimated for periods of ice effect, Nov. 16, 17, Dec. 11-16, Dec. 28 to Jan. 1, Jan. 18-23, Jan. 29 to Mar. 3, which are fair. Slight regulation at low stages from power operations upstream.

Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	18	32	270	80	50	332	70	21	26	19	20
2	24	18	32	540	75	60	277	65	20	24	20	18
3	21	18	34	390	70	150	226	72	17	21	147	18
4	19	18	52	304	65	1,680	698	79	18	21	46	18
5	23	20	54	940	60	1,220	760	62	17	23	26	21
6	22	37	46	758	57	785	575	59	17	18	19	17
7	21	40	42	2,780	55	510	760	54	18	21	16	17
8	23	33	40	2,450	52	345	540	46	18	20	14	16
9	24	31	38	1,100	50	264	450	40	20	19	25	18
10	21	30	31	645	49	202	376	43	53	18	59	18
11	21	27	29	420	48	179	480	52	34	16	58	14
12	19	26	27	346	46	122	450	44	30	15	70	15
13	18	33	26	290	45	168	390	40	31	23	69	15
14	16	38	25	264	44	251	361	39	26	158	69	35
15	17	37	27	214	43	168	318	54	23	68	44	39
16	16	36	60	190	42	168	376	60	19	30	303	837
17	27	35	501	132	41	168	346	44	18	21	460	1,380
18	37	38	800	120	40	190	332	38	20	18	190	376
19	27	65	480	110	40	146	304	34	379	17	114	214
20	25	60	428	100	40	153	264	31	146	17	90	142
21	21	53	420	95	40	149	214	27	88	15	64	106
22	21	58	332	90	40	153	190	31	64	16	43	105
23	23	59	277	95	40	116	190	38	74	13	39	83
24	21	54	226	101	40	103	149	31	56	12	50	67
25	21	52	251	101	40	116	124	37	40	10	72	56
26	21	47	168	101	40	130	110	35	35	12	47	61
27	20	50	105	92	40	192	105	30	37	22	35	264
28	20	44	95	108	40	548	95	25	31	169	31	134
29	20	42	90	97	376	84	23	30	30	52	28	321
30	19	37	90	95	332	74	20	30	30	32	25	595
31	18		100	85		290		21		22	22	
Month					Maximum		Minimum		Mean		Per square mile	Run-off in inches
October					37		16		21.7		0.114	0.13
November					65		18		38.5		.202	.23
December					800		25		160		.838	.97
January					2,780		85		433		2.27	2.62
February					80		40		48.6		.254	.26
March					1,680		50		306		1.60	1.84
April					760		74		332		1.74	1.94
May					79		20		43.4		.227	.26
June					379		17		47.7		.250	.28
July					169		10		31.3		.164	.19
August					460		14		74.6		.391	.45
September					1,380		14		178		.932	1.04
The year					2,780		10		144		.754	10.21

Brush Creek at Gapsville, Pa.

Location.— Water-stage recorder at highway bridge three quarters of a mile northwest of Gapsville, Bedford County, and 5½ miles above confluence with Shaffer Creek. Drainage area—36 square miles.

Drainage area.- 36.8 square miles.

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; November 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.—Maximum discharge during year, about 1,360 second-foot Sept. 16 (gage height, 4.64 feet); minimum, 1.0 second-foot Sept. 3, 4 (gage height, 0.78 foot). 1929-34: Maximum discharge, that of Sept. 16, 1934; minimum, 0.2 second-foot Aug. 28, Sept. 12, 20-23, 1932.

Remarks.- Records good except those above 300 second-feet, which are fair, and those estimated for periods of ice effect, Dec. 11-16, Dec. 26 to Jan. 1, Jan. 17-22, Jan. 30 to Mar. 4, Mar. 12, 13, 21-26, and for days of missing gage-height record, Jan. 25, 26, Sept. 17, 18, which are poor. Regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	13	12	50	15	9	86	23	11	11	3.6	2.0
2	47	12	11	111	14	11	74	22	10	10	2.8	1.6
3	23	13	12	86	13	20	64	25	9.0	9.0	6.4	1.1
4	18	12	15	74	13	40	110	28	9.8	8.0	4.4	3.3
5	17	13	13	143	12	164	134	23	8.3	7.5	3.0	20
6	16	19	12	142	12	83	122	22	9.6	6.3	3.3	5.5
7	14	20	12	410	12	57	142	22	12	5.6	2.9	4.8
8	13	17	11	311	11	50	122	20	7.8	5.9	1.8	4.6
9	14	17	11	202	11	48	107	19	9.9	6.0	3.7	2.8
10	12	15	10	141	10	43	92	19	18	3.8	4.8	3.8
11	11	16	9	104	10	40	127	20	13	4.3	3.5	2.2
12	9.5	14	9	82	10	34	149	19	9.7	4.7	6.8	6.2
13	10	16	9	71	9	31	137	18	9.4	5.4	5.6	18
14	10	18	8	60	9	45	117	17	8.1	8.4	4.9	20
15	8.6	17	9	50	9	36	96	21	6.8	5.7	4.0	17
16	8.2	16	15	44	9	31	91	22	6.4	4.3	21	312
17	24	14	47	36	9	27	76	19	5.4	3.8	18	625
18	18	17	68	30	8	28	62	17	26	4.1	7.6	113
19	17	15	51	26	8	27	58	17	349	2.1	5.0	59
20	18	15	51	23	8	27	59	16	126	2.9	6.6	36
21	14	15	52	22	8	26	53	16	74	3.3	3.5	28
22	12	16	44	22	8	26	48	17	49	2.1	2.7	38
23	18	15	39	27	8	25	44	16	40	2.5	3.3	26
24	17	14	36	25	8	24	40	15	31	2.7	8.4	21
25	17	14	34	22	8	23	37	16	25	2.4	12	16
26	12	13	29	22	8	25	34	16	20	2.1	2.7	16
27	11	14	24	20	8	40	33	14	18	2.8	4.4	15
28	15	13	22	23	8	87	29	13	16	15	2.0	15
29	14	12	20	20		84	27	12	13	3.8	4.2	29
30	14	12	20	18		82	25	13	12	3.4	2.3	136
31	14		22	16		86		13		3.7	3.0	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					68	8.2	17.2	0.467		0.54		
November.....					20	12	14.9	.405		.45		
December.....					68	8	23.8	.647		.75		
January.....					410	16	78.5	2.13		2.46		
February.....					15	8	9.9	.269		.28		
March.....					164	9	44.5	1.21		1.40		



## Great Trough Creek near Marklesburg, Pa.

**Location.**— Water-stage recorder at highway bridge half a mile above mouth and 3 miles southeast of Marklesburg, Huntingdon County. Zero of gage is 714.48 feet above mean sea level.

**Drainage area.**— 84.6 square miles (revised).

**Records available.**— October 1931 to September 1934 in reports of U. S. Geological Survey; January 1930 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Extremes.**— Maximum discharge during year, about 1,840 second-feet Sept. 16 (gage height, 4.56 feet); minimum, 0.6 second-foot Sept. 3 (gage height, 0.52 foot). 1930-34: Maximum discharge (estimated), 2,180 second-feet (revised) May 23, 1931 (gage height, 4.80 feet); minimum, 0.6 second-foot Sept. 22, 23, 1932, Sept. 3, 1934.

**Remarks.**— Records good except those above 500 second-feet and those estimated for periods of ice effect, Dec. 11-17, Dec. 26 to Jan. 1, Jan. 19-22, 24, 25, Feb. 1 to Mar. 5, Mar. 10-16, and for period of missing gage-height record, Jan. 5-14, which are fair. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	6.4	7.0	50	25	7	212	52	19	12	3.4	4.1
2	9.1	6.0	6.8	156	23	8	175	50	20	11	3.2	3.0
3	11	5.6	7.1	94	21	40	156	53	17	9.7	28	.9
4	8.7	5.6	9.4	71	19	80	159	69	16	11	25	1.3
5	11	6.1	12	150	18	200	201	58	13	10	9.0	2.7
6	21	8.0	11	130	17	164	169	51	14	8.1	5.0	8.2
7	12	11	9.7	400	15	76	270	48	16	15	3.4	5.6
8	9.5	10	8.9	300	13	72	268	44	15	86	2.6	4.0
9	9.1	9.8	9.1	250	11	29	222	41	14	67	2.6	4.5
10	9.6	9.5	6.8	200	9	26	195	40	18	18	3.2	5.7
11	8.2	8.9	6	160	8	24	212	43	24	13	3.8	4.5
12	7.2	8.0	6	130	7	23	305	42	14	10	4.7	5.7
13	7.0	8.7	5	115	7	30	241	38	16	9.1	7.2	88
14	6.3	9.6	5	100	7	60	208	36	18	9.8	6.4	52
15	6.0	9.2	6	86	6	110	181	40	13	9.2	5.5	30
16	5.6	7.3	8	75	6	100	188	51	11	12	19	319
17	9.0	8.7	20	62	6	85	226	44	9.3	20	43	907
18	12	8.2	80	54	6	69	172	38	12	8.0	23	206
19	9.9	12	56	50	6	83	159	35	195	5.4	11	84
20	8.6	11	44	46	6	61	156	34	116	4.5	7.1	57
21	7.2	12	62	45	6	54	139	33	52	4.1	4.4	40
22	7.2	9.9	47	48	6	55	117	31	35	4.3	5.6	50
23	8.1	10	40	53	6	50	110	34	48	4.5	5.1	55
24	10	9.5	36	47	6	61	102	30	40	3.6	3.9	39
25	9.8	8.5	34	43	6	56	89	32	28	2.7	32	34
26	8.7	7.8	25	45	6	49	78	32	22	2.8	14	30
27	7.4	7.8	20	52	6	65	72	27	18	4.5	6.7	26
28	6.6	8.9	17	36	6	221	65	25	16	8.0	4.3	28
29	6.4	8.0	15	34		184	60	24	15	8.3	4.6	37
30	6.6	7.4	15	8.8		159	55	23	13	5.6	2.8	169
31	6.2	18	26			157		21		3.8	2.0	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	21	5.6	8.87	0.105	0.12							
November	12	5.6	8.65	.102	.11							
December	80	5	21.1	.249	.29							
January	400	8.8	101	1.19	1.37							
February	25	6	10.1	.119	.12							
March	221	7	79.3	.937	1.08							
April	305	55	165	1.95	2.18							
May	69	21	39.3	.465	.54							
June	195	9.3	29.2	.345	.38							
July	86	2.7	12.9	.162	.18							
August	43	2.0	9.73	.115	.13							
September	907	.9	76.7	.907	1.01							
The year	907	.9	46.9	.554	7.51							

## Aughwick Creek near Orbisonia, Pa.

**Location.**— Chain gage at highway bridge 600 feet above East Broad Top Railroad bridge, 650 feet above mouth of Three Springs Creek, and 2½ miles southwest of Orbisonia, Huntingdon County. Zero of gage is 619.04 feet above mean sea level.

**Drainage area.**— 174 square miles.

**Records.**— October 1931 to September 1934 in reports of U. S. Geological Survey; May 1915 to February 1916, January 1930 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Extremes.**— Maximum gage height during year (estimated), 11.6 feet Sept. 17 (discharge not determined); minimum discharge, 6.9 second-feet Sept. 3 (gage height, 1.77 feet).

1915-16, 1930-34: Maximum gage height, that of Sept. 17, 1934; minimum discharge, 3.8 second-feet Sept. 25-27, 1932 (gage height, 1.70 feet).

Maximum stage known, about 20.5 feet during flood of 1889 (discharge not determined).

**Remarks.**— Records fair. Discharge estimated for periods of ice effect, Nov. 15-17, Dec. 11-17, Dec. 27 to Jan. 1, Jan. 19-24, Jan. 30 to Mar. 4, Mar. 12, 13. Some regulation at low stages from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	39	32	250	73	40	450	98	43	35	14	8.0
2	198	39	28	543	71	41	360	96	39	28	17	7.6
3	87	41	28	316	69	45	287	104	37	24	32	6.9
4	63	39	32	246	64	300	287	183	34	28	30	7.6
5	59	35	39	640	60	728	405	135	32	22	28	24
6	65	43	39	687	57	450	330	113	32	22	20	47
7	55	63	35	2,180	55	287	545	102	32	20	12	32
8	43	55	35	1,470	53	220	545	87	35	20	11	24
9	65	51	32	700	52	183	450	79	35	28	11	20
10	61	47	24	450	51	160	375	79	41	24	11	37
11	47	45	26	360	50	128	443	79	49	19	14	20
12	39	41	25	287	49	120	795	75	43	15	15	28
13	37	39	24	260	48	140	580	67	39	14	43	214
14	34	43	24	246	47	220	450	63	39	15	32	187
15	32	40	25	195	46	171	375	117	32	17	28	183
16	30	38	30	171	45	160	420	144	28	22	30	1,930
17	51	35	120	144	44	160	450	104	24	15	69	4,080
18	108	39	327	117	43	160	360	91	24	15	59	510
19	69	43	208	110	42	146	345	79	408	11	37	301
20	57	43	195	100	42	141	390	75	219	8.6	24	208
21	51	43	208	100	41	135	301	69	122	11	19	160
22	59	39	160	100	41	139	260	98	83	11	17	195
23	87	39	144	110	40	115	246	79	148	12	17	171
24	100	35	128	130	40	87	220	65	100	15	19	122
25	71	35	117	117	40	100	183	63	67	14	24	98
26	59	32	108	117	40	124	160	67	51	9.9	20	83
27	55	34	100	100	40	154	148	59	43	37	17	77
28	53	35	95	96	40	506	135	51	39	14	12	87
29	47	35	90	87		405	117	47	35	35	11	111
30	43	32	90	80		345	104	45	39	19	11	610
31	43	95	75			350		45		17	8.6	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	198	30	61.5	0.353	0.41							
November	63	32	40.6	.233	.26							
December	327	24	95.9	.494	.57							
January	2,180	75	341	1.96	2.26							
February	73	40	49.4	.284	.30							
March	728	40	208	1.20	1.38							
April	795	104	351	2.02	2.25							
May	183	45	85.7	.493	.57							
June	408	24	66.4	.382	.43							
July	37	8.6	19.2	.110	.13							
August	69	8.6	23.0	.132	.15							
September	4,080	6.9	320	1.84	2.05							
The year	4,080	6.9	138	.793	10.76							



Tuscarora Creek near Port Royal, Pa.

Location.- Water-stage recorder at highway bridge 2 miles southwest of Port Royal, Juniata County.

Drainage area.- 214 square miles (revised).

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1911 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 23 years, 258 second-feet.

Extremes.- Maximum discharge during year, 6,720 second-feet Sept. 17 (gauge height, 12.23 feet); minimum, 5.9 second-foot July 22 (gauge height, 2.38 feet). 1911-34: Maximum discharge (estimated), 13,000 second-feet Oct. 23, 1929 (gauge height, 16.21 feet); minimum, 1 second-foot Aug. 31, Sept. 4-6, 14, 18, 1913, Sept. 21, 1914.

Remarks.- Records fair. Discharge estimated for periods of ice effect, Dec. 11-16, Dec. 27 to Jan. 5, Jan. 19-22, Jan. 28 to Mar. 4, Mar. 12, 13. Regulation at low and medium stages from operation of gristmills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	49	39	80	82	52	778	122	49	27	35	17
2	80	50	37	300	78	55	560	115	45	30	25	12
3	78	49	28	250	75	80	408	153	41	30	67	10
4	66	46	41	200	72	200	376	352	41	26	75	14
5	70	43	42	400	69	1,350	500	259	37	29	38	22
6	85	57	44	666	66	520	397	205	33	25	31	42
7	80	63	41	1,530	64	270	496	181	45	26	19	35
8	64	69	38	1,390	62	176	560	142	59	26	16	40
9	67	56	38	678	60	116	452	135	42	32	15	145
10	67	53	29	459	58	109	376	126	46	21	18	99
11	61	48	30	349	57	101	431	135	70	22	21	48
12	56	46	29	280	56	100	895	124	51	21	14	40
13	54	51	28	251	55	110	642	105	51	19	19	58
14	50	49	27	245	54	176	500	101	47	19	23	217
15	46	47	28	210	53	140	415	123	38	18	19	358
16	49	46	35	177	52	140	461	186	33	39	22	1,460
17	80	46	105	142	51	135	710	123	26	23	55	4,290
18	159	44	295	108	50	149	520	105	35	20	64	841
19	80	43	163	95	50	146	437	94	278	20	29	437
20	67	51	138	90	50	130	538	85	210	18	30	280
21	62	44	160	90	50	122	408	81	86	16	20	205
22	55	46	126	100	50	122	339	76	59	15	18	189
23	67	46	107	136	50	105	301	76	154	11	15	202
24	97	42	93	137	50	83	265	74	154	17	19	137
25	77	40	93	122	50	75	250	76	79	18	17	113
26	69	35	86	124	50	109	199	81	57	15	40	98
27	61	43	80	105	50	121	184	68	46	16	31	92
28	58	39	75	100	50	545	166	64	42	76	26	94
29	54	41	72	96		454	144	55	38	78	22	353
30	55	37	70	92		369	133	53	35	52	17	761
31	51		70	87		385		52		52	14	761
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					159	46	68.8	0.321		0.37		
November.....					69	35	47.3	.221		.25		
December.....					295	27	73.8	.345		.40		
January.....					1,530	80	293	1.37		1.58		
February.....					82	50	57.6	.269		.28		
March.....					1,350	52	218	1.02		1.18		
April.....					895	133	427	2.00		2.23		
May.....					352	52	120	.561		.65		
June.....						26	67.6	.316		.35		
July.....					78	11	27.6	.129		.15		
August.....					75	14	28.2	.132		.15		
September..					4,290	10	357	1.67		1.96		
The year.....					4,280	10	149	.696		9.45		

Cocolamus Creek near Millerstown, Pa.

Location.- Water-stage recorder at highway bridge 2.3 miles northeast of Millerstown, Perry County, and 3 miles above confluence with Juniata River.

Drainage area.- 57.2 square miles (revised).

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; February 1930 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum gage height during year, 7.67 feet Sept. 17 (discharge not determined); minimum discharge, 2.3 second-foot July 23 (gage height, 0.99 foot). 1930-34: Maximum gage height, 8.20 feet Aug. 24, 1933 (discharge not determined); minimum discharge, 0.7 second-foot Aug. 15, 1932 (gage height, 0.81 foot); minimum daily discharge, 1.3 second-foot Aug. 28, 1932.

Remarks.- Records excellent except those for high stages and those estimated for periods of ice effect, Dec. 12-17, Dec. 26 to Jan. 6, Jan. 30 to Mar. 5, Mar. 9-14, 24-26, which are fair. Some regulation at low stages from operation of gristmill upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	15	10	20	40	11	419	35	13	6.7	11	6.3
2	23	13	12	30	36	14	227	34	12	6.5	8.3	6.3
3	20	13	9.2	50	32	25	157	74	9.4	6.0	34	5.7
4	19	14	11	100	28	100	142	101	10	7.2	15	15
5	21	13	13	150	25	300	122	82	10	6.6	8.3	82
6	21	21	12	200	23	113	103	72	9.9	6.4	7.4	30
7	19	26	12	762	21	76	117	65	13	6.0	6.1	18
8	17	20	11	482	20	53	103	57	9.3	7.5	5.6	51
9	18	15	12	256	19	45	89	61	9.7	6.6	5.7	89
10	14	16	11	173	18	40	82	50	11	5.8	128	48
11	15	17	9.5	134	17	35	163	53	15	4.7	331	34
12	14	14	9	108	17	32	252	44	12	4.7	46	27
13	12	16	8	103	16	33	168	38	12	4.6	38	26
14	11	21	8	96	15	60	132	38	9.8	4.3	32	61
15	10	16	8	82	15	90	105	46	9.2	4.8	21	67
16	8.6	15	9	76	15	62	140	48	8.0	18	27	685
17	45	12	40	63	14	55	125	34	7.8	8.5	44	1,150
18	28	15	123	70	14	55	110	32	7.9	5.2	26	296
19	18	14	79	59	13	58	105	32	98	4.4	22	164
20	15	17	63	65	13	47	103	26	35	3.7	21	108
21	14	15	82	62	13	42	87	27	19	4.4	14	82
22	12	14	70	48	13	46	76	23	15	4.2	11	311
23	26	13	59	69	12	34	70	22	17	2.4	10	184
24	23	13	50	64	12	31	63	21	12	4.1	16	125
25	26	11	53	58	11	30	57	27	12	3.6	17	96
26	21	11	50	48	11	32	50	30	9.8	4.1	10	78
27	19	12	40	47	10	64	50	20	9.0	14	9.8	76
28	20	11	30	49	10	299	46	20	9.0	55	10	61
29	16	11	20	45	17	172	38	17	8.4	9.4	8.7	285
30	16	8.8	15	41	150	150	37	16	7.4	8.8	7.4	451
31	14		15	40	241	241		14		47	6.6	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					45	8.6	18.7	0.327		0.38		
November.....					26	8.8	14.8	.259		.29		
December.....					123	8	30.8	.538		.62		
January.....					762	20	118	2.06		2.38		
February.....					40	10	18.0	.315		.33		
March.....					300	11	78.2	1.37				
April.....					419	37	118	2.06		2.30		
May.....					101	14	40.6	.710		.82		
June.....					98	7.4	14.7	.257		.29		
July.....					56	2.4	9.23	.161		.19		
August.....					331	5.6	30.9	.540		.62		
September.....					1,150	5.7	157	2.74		3.06		
The year.....					1,150	2.4	54.1	.946		12.86		



## Sherman Creek at Shermantdale, Pa.

Location.- Water-stage recorder at highway bridge at Shermantdale, Perry County.

Zero of gage is 421.90 feet above mean sea level.

Drainage area.- 200 square miles.

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; September 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, about 6,890 second-feet Sept. 17 (gage height, 9.06 feet); minimum, 16 second-feet Aug. 14, Sept. 1, 3 (gage height, 0.90 foot); minimum daily discharge, 27 second-feet Sept. 2, 1929-34: Maximum gage height, 14.05 feet Aug. 24, 1933 (discharge not determined); minimum discharge, 3.9 second-feet Dec. 1, 1930 (gage height, 0.72 foot); minimum daily discharge, 10 second-feet Dec. 24, 25, 1930. Maximum stage known, 20.34 feet July 22, 1927 (discharge not determined).

Remarks.- Records good except those estimated for periods of ice effect, Nov. 16-18, Dec. 11-16, Dec. 26 to Jan. 1, Jan. 19-22, Jan. 31 to Mar. 4, Mar. 11-13, which are poor. Some regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	137	78	56	150	105	65	1,040	179	98	60	43	32
2	154	83	52	366	100	80	718	178	92	61	46	27
3	115	76	52	283	95	150	555	605	84	58	83	32
4	102	78	67	235	91	400	491	929	85	61	80	46
5	120	76	59	385	88	1,090	561	595	79	59	47	40
6	142	103	66	499	85	450	443	457	73	56	44	81
7	110	103	57	1,030	82	237	558	388	79	62	36	52
8	96	100	54	944	79	202	520	314	73	58	37	62
9	108	95	56	596	76	176	448	274	76	55	45	146
10	99	89	48	444	74	144	406	281	81	51	62	98
11	89	80	47	356	72	130	663	360	96	50	84	58
12	84	79	46	304	70	130	1,030	262	85	46	75	50
13	82	79	45	296	68	140	759	228	88	44	68	60
14	80	83	45	296	66	196	613	218	75	44	48	131
15	76	72	48	256	65	175	515	342	63	43	49	200
16	69	70	70	228	64	176	626	361	57	86	67	2,110
17	268	70	174	203	63	176	670	274	53	54	77	3,460
18	206	80	231	181	62	196	510	251	71	46	73	696
19	122	75	148	170	61	186	487	221	782	58	52	409
20	105	82	136	140	60	169	644	200	278	42	48	293
21	87	66	143	140	60	159	457	186	150	35	41	236
22	87	65	127	150	60	155	397	183	172	31	39	540
23	115	60	107	200	60	128	365	172	285	40	28	344
24	121	60	99	195	60	113	326	152	177	39	36	154
25	103	55	97	166	60	121	297	183	120	32	39	204
26	98	69	85	157	60	140	262	187	90	45	37	176
27	91	60	78	147	60	154	251	149	80	35	36	171
28	86	62	73	154	60	596	228	125	79	283	36	171
29	86	59	70	139		476	207	119	72	99	45	316
30	85	57	70	118		397	193	122	64	48	33	795
31	84		75	110		599		107		77	36	
Month												
	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	268	69	110	0.550	0.63							
November	103	55	75.5	.378	.42							
December	231	45	83.3	.416	.48							
January	1,030	110	292	1.46	1.68							
February	105	60	71.6	.358	.37							
March	1,090	65	249	1.24	1.43							
April	1,040	193	507	2.54	2.83							
May	929	107	277	1.38	1.59							
June	782	53	125	.625	.70							
July	283	31	59.3	.296	.34							
August	84	28	50.6	.253	.29							
September	3,460	27	373	1.86	2.08							
The year	3,460	27	190	.950	12.86							

## Conodoguinet Creek near Hogestown, Pa.

Location.- Water-stage recorder 1,000 feet above highway bridge, three eights of a mile below mouth of Hogestown Run, and 1 mile northeast of Hogestown, Cumberland County.

Drainage area.- 470 square miles.

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; September 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.- Maximum discharge during year, 8,200 second-feet Sept. 17 (gage height, 8.97 feet); minimum, 49 second-feet Dec. 11 (gage height, 0.77 foot); minimum daily discharge, 98 second-feet July 23, 1929-34: Maximum discharge, 11,800 second-feet Aug. 24, 1933 (gage height, 10.66 feet); minimum, 24 second-feet Dec. 16, 1930.

Remarks.- Records good except those estimated for periods of ice effect, Nov. 16, 17, Dec. 13-16, Dec. 28 to Jan. 6, Jan. 29 to Mar. 5, and for period of missing gage-height record, Jan. 19-23, which are fair. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	472	275	170	250	300	130	1,650	304	192	148	302	138
2	630	275	175	500	285	140	1,280	308	219	148	188	116
3	541	271	166	1,020	270	200	930	499	184	145	236	106
4	393	256	162	880	260	380	790	1,260	159	168	412	132
5	408	260	194	1,020	240	800	802	950	209	143	234	146
6	537	271	184	1,490	225	1,060	671	700	170	148	157	152
7	417	308	168	2,060	220	588	730	598	165	143	161	174
8	365	291	170	2,600	210	449	802	498	168	168	135	174
9	342	287	174	1,540	200	387	694	415	202	148	146	164
10	338	271	180	1,080	190	338	609	406	171	165	173	238
11	321	260	183	859	190	321	774	378	177	140	184	224
12	312	248	160	706	195	270	1,570	356	202	138	282	157
13	304	248	155	642	190	290	1,180	334	177	138	240	165
14	291	264	160	665	180	343	944	313	168	118	234	597
15	287	260	165	597	180	387	796	364	174	114	177	1,100
16	271	235	180	508	180	387	766	396	154	177	201	1,940
17	509	235	218	454	170	396	1,120	360	140	148	330	6,680
18	802	260	443	401	165	401	911	317	141	120	436	4,980
19	493	241	462	390	155	410	796	269	340	110	292	1,510
20	417	205	365	390	145	364	859	265	1,040	113	222	996
21	347	210	398	380	140	342	694	250	445	114	199	742
22	329	209	370	370	145	334	598	269	513	110	159	862
23	329	192	325	378	140	304	550	269	288	98	148	962
24	393	188	295	415	135	266	514	247	373	102	143	642
25	374	188	264	374	130	250	454	254	277	116	348	519
26	321	176	260	356	130	250	420	257	211	106	363	444
27	308	162	225	346	130	307	396	254	192	112	203	392
28	304	168	200	329	130	374	225	225	172	612	177	387
29	295	170	185	305		976	351	225	162	531	159	508
30	275	173	180	295		766	325	215	159	225	148	2,640
31	283		185	290		866	201	201	208	140		
Month												
	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	802	271	387	0.823	0.95							
November	308	162	236	.502	.56							
December	462	165	230	.489	.56							
January	2,600	250	705	1.50	1.73							
February	500	130	187	.398	.41							
March	1,080	130	435	.926	1.07							
April	1,650	325	586	1.66	1.85							
May	1,260	201	386	.821	.95							
June	1,040	140	238	.506	.56							
July	612	98	167	.355	.41							
August	436	135	223	.474	.55							
September	6,680	106	933	1.99	2.22							
The year	6,680	98	409	.870	11.82							



Swatara Creek at Harper Tavern, Pa.

Location.— Water-stage recorder at highway bridge at Harper Tavern, Lebanon County, 6 miles northwest of Annville, and 8½ miles below mouth of Little Swatara Creek. Zero of gage is 355.53 feet above mean sea level.

Drainage area.- 333 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; December 1918 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 15 years (1919-34), 529 second-feet.

Average discharge.- 15 years (1919-34), 529 second-feet.  
Extremes - Maximum discharge during year, 4,820 second-feet Sept. 30 (gage height,

Extremes.—Maximum discharge during year, 4,820 second-feet Sept. 30 (gage height, 7.35 feet); minimum, 36 second-feet Aug. 9, Sept. 2 (gage height, 0.14 foot).

1918-34: Maximum discharge, 25,300 second-foot Aug. 24, 1933 (gage height, 17.53 feet); minimum, 8 second-foot Sept. 24, 25, 1932 (gage height, 0.03 foot).

Remarks. - Records good except those estimated for periods of ice effect, Nov. 18-19, Dec. 11-16, Dec. 27 to Jan. 3, Jan. 28 to Mar. 2, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	322	142	118	140	370	130	2,840	406	192	107	63	46
2	618	164	107	160	340	200	1,850	380	177	90	61	42
3	353	150	102	250	320	530	1,410	644	172	93	112	38
4	280	158	123	570	290	2,150	1,290	906	154	114	122	183
5	276	147	128	1,580	260	2,310	1,200	647	154	101	70	126
6	268	182	121	1,300	240	960	934	546	150	90	62	69
7	239	214	120	2,120	230	535	1,080	494	236	88	48	62
8	224	193	116	1,340	220	395	906	431	157	158	48	124
9	214	178	110	970	210	322	769	395	126	121	42	173
10	200	173	80	770	200	286	694	375	140	97	70	108
11	184	153	80	629	190	258	1,070	698	160	76	320	80
12	180	150	74	561	180	244	3,420	525	150	66	387	61
13	168	160	72	662	175	288	1,700	426	166	70	609	87
14	169	152	72	518	170	366	1,530	416	142	74	304	150
15	154	162	73	444	165	274	1,230	488	122	69	200	343
16	161	145	100	388	160	286	1,300	610	96	366	236	1,240
17	814	140	194	319	155	280	1,370	431	93	228	264	2,800
18	859	140	386	353	150	308	992	447	91	112	173	1,210
19	416	145	346	316	145	355	928	365	1,300	88	133	753
20	326	150	267	299	140	317	1,700	336	902	75	122	535
21	286	148	322	280	135	289	1,170	303	450	74	84	426
22	254	141	285	850	130	289	1,020	294	344	76	81	794
23	251	136	229	1,190	125	240	906	276	322	62	68	1,330
24	254	130	223	721	120	217	823	238	246	56	68	700
25	267	120	202	616	113	216	906	308	188	57	78	556
26	258	122	196	522	108	258	694	563	158	133	61	468
27	214	126	170	486	104	310	631	334	148	82	62	434
28	193	128	150	480	102	1,240	562	264	141	75	54	416
29	187	122	135	450		900	494	236	124	64	50	1,410
30	184	120	130	430		780	447	226	112	60	56	4,050
31	176		128	400		1,240		210		72	42	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	859	154	288	0.865	1.00
November.....	214	120	180	.405	.50
December.....	386	72	160	.480	.55
January.....	2,120	140	642	1.93	2.22
February.....	370	102	187	.562	.59
March.....	2,310	130	541	1.62	1.87
April.....	3,420	447	1,200	3.60	4.02
May.....	906	210	426	1.28	1.48
June.....	1,300	91	237	.712	.79
July.....	366	56	99.8	.300	.35
August.....	609	42	134	.402	.46
September.....	4,050	38	627	1.88	2.10
The year.....	4,050	38	391	1.17	15.93

West Conewago Creek near Manchester, Pa.

Location.- Water-stage recorder 500 feet above Manchester-York Haven highway bridge and  $1\frac{1}{2}$  miles north of Manchester, York County.

Drainage area.- 510 square miles.

Records available.- October 1928 to September 1934.

Extremes.- Maximum discharge during year, 24,900 second-feet Sept. 17 (gage height, 17.41 feet); minimum, 12 second-feet July 29 (gage height, 1.44 feet).  
1928-33: Maximum discharge, 47,600 second-feet Aug. 24, 1933 (gage height, 24.14 feet); minimum, 2 second-feet Aug. 7, 8, Oct. 20, 1930.

Remarks.- Records fair except those above 800 second-feet, which are fair, and those for estimated periods, which are poor. Discharge estimated for periods of missing gage heights, Oct. 16 to Nov. 10, Jan. 13-23, Mar. 7-13, Aug. 23 to Sept. 4, Sept. 8-11, and for periods of ice effect, Dec. 13-16, Dec. 27 to Jan. 1, Jan. 29-31, Feb. 27 to Mar. 2.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	276	140	104	170	136	54	4,200	232	159	70	47	85		
2	566	130	100	964	125	60	1,540	219	147	60	37	70		
3	473	130	102	666	123	191	980	522	126	41	184	56		
4	244	120	100	364	125	1,660	812	1,910	108	63	475	1,600		
5	215	120	104	1,240	123	2,750	854	852	106	50	178	367		
6	260	200	113	2,580	119	1,170	686	547	143	68	95	207		
7	247	170	115	2,400	111	800	649	445	185	96	59	192		
8	204	160	115	2,670	104	600	724	361	145	2,180	54	640		
9	161	130	106	1,090	81	500	547	299	113	727	41	400		
10	173	130	106	748	82	450	472	277	106	228	60	300		
11	156	142	87	575	65	420	574	267	138	147	511	250		
12	156	127	85	468	74	400	1,980	253	168	103	3,170	213		
13	152	127	83	475	80	400	1,030	232	207	81	3,910	255		
14	145	140	82	500	83	452	697	223	176	68	547	468		
15	152	138	82	400	89	491	567	249	156	61	318	8,710		
16	145	127	85	320	86	419	640	373	96	55	1,670	6,630		
17	390	111	110	270	80	398	1,360	345	83	51	1,630	19,600		
18	290	111	267	230	77	423	727	249	72	64	408	3,050		
19	230	111	337	250	71	500	567	213	534	54	365	1,360		
20	200	115	234	240	68	398	597	188	611	42	281	950		
21	190	134	260	200	72	329	615	199	269	35	223	753		
22	190	132	284	250	77	307	450	199	193	28	176	735		
23	190	125	209	390	73	288	406	299	262	47	145	991		
24	200	121	176	502	71	239	373	324	421	36	120	623		
25	220	123	158	295	67	197	337	282	210	35	250	523		
26	200	113	163	257	52	213	349	486	150	27	170	454		
27	180	104	120	264	51	192	307	380	116	28	130	450		
28	170	110	105	240	50	2,660	292	263	94	26	110	509		
29	160	113	100	210		1,550	274	226	87	26	110	2,280		
30	160	108	100	150		830	246	194	68	54	100	18,900		
31	160		105	140		1,310		167		55	90			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					566		145		221		0.433		0.50	
November.....					200		108		128		.251		.28	
December.....					337		82		139		.273		.31	
January.....					2,670		140		629		1.23		1.42	
February.....					136		50		86.2		.169		.18	
March.....					2,750		54		663		1.30		1.50	
April.....					4,200		246		795		1.56		1.74	
May.....					1,910		167		364		.714		.82	
June.....					811		68		188		.369		.41	
July.....					2,180		26		152		.298		.34	
August.....					3,910		37		505		.990		1.14	
September.....					19,600		56		2,380		4.67		5.21	
The year.....					19,600		26		521		1.02		13.85	



## Codorus Creek at Spring Grove, Pa.

**Location.**- Water-stage recorder at highway bridge at Spring Grove, York County. Zero of gage is 436.22 feet above mean sea level.  
**Drainage area.**- 74.3 square miles.  
**Records available.**- March 1932 to September 1934 in reports of U. S. Geological Survey; April 1929 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Extremes.**- Maximum discharge during year, 6,070 second-feet Sept. 16 (gage height, 8.70 feet); minimum, 4.6 second-feet Dec. 12 (gage height, 0.30 foot); minimum daily discharge, 12 second-feet July 4, 6.  
 1929-34: Maximum discharge, about 11,200 second-feet Aug. 23, 1933 (gage height, 11.84 feet); minimum, probably less than 2.2 second-feet in September 1932; minimum daily discharge recorded, 7.1 second-feet Oct. 5, 1930.  
**Remarks.**- Records fair except those estimated for period of missing gage-height record, Dec. 19 to Jan. 8, and those for June to August, which are poor. Regulation at low stages from operation of paper mill above station.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	30	25	30	33	26	287	58	34	15	19	21
2	267	30	25	70	36	28	175	56	31	18	19	21
3	62	30	27	58	34	497	133	308	30	14	34	29
4	53	29	27	50	34	183	124	184	28	12	21	381
5	62	31	25	100	34	150	107	134	26	13	19	41
6												
7	54	57	26	100	34	89	92	116	26	12	19	28
8	47	39	25	150	32	62	122	100	26	61	18	191
9	45	34	25	120	32	57	91	83	21	432	17	262
10	42	32	25	105	25	48	80	76	24	45	30	128
11	40	32	22	87	26	47	71	71	31	33	53	75
12	39	31	22	74	28	45	129	68	58	27	227	55
13	38	31	20	67	28	40	139	62	52	26	266	46
14	46	32	21	74	32	58	91	59	33	26	72	88
15	40	33	23	71	26	72	81	57	26	24	36	77
16	37	31	24	59	30	54	71	76	24	23	186	225
17												
18	36	26	30	53	28	51	168	70	21	22	337	3,920
19	121	26	51	48	26	52	120	55	21	20	96	3,670
20	54	30	46	42	27	60	98	51	26	20	50	317
21	45	32	40	45	28	58	96	47	100	19	41	208
22	42	32	45	41	25	49	166	42	32	19	35	157
23												
24	40	30	50	41	28	45	104	49	24	18	28	136
25	39	31	44	43	30	45	95	59	22	19	26	133
26	37	29	37	72	32	37	90	53	90	19	24	109
27	39	28	32	49	24	38	109	41	28	17	63	93
28	40	27	30	45	27	41	107	123	22	26	58	82
29												
30	34	29	30	45	26	45	80	84	18	44	30	77
31	36	29	28	45	24	61	82	56	18	20	26	101
1	34	26	26	45	26	287	74	48	16	21	23	80
2	32	25	25	29		114	65	43	15	20	25	466
3	31	26	25	30		90	60	42	14	22	22	1,610
4	32	25	29	29		331		38		26	22	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	267	31	56.2	0.756	0.87							
November	57	25	30.9	.416	.46							
December	51	20	29.9	.402	.46							
January	150	29	61.8	.833	.96							
February	36	24	29.1	.392	.41							
March	497	26	92.3	1.24	1.43							
April	287	60	110	1.48	1.65							
May	308	38	77.7	1.05	1.17							
June	100	14	31.2	.420	.47							
July	432	12	36.5	.491	.57							
August	337	17	62.6	.843	.97							
September	3,920	21	424	5.71	6.37							
The year	3,920	12	86.7	1.17	15.79							

## South Branch of Codorus Creek near York, Pa.

**Location.**- Water-stage recorder just below dam of pumping station of York Water Co., half a mile above confluence with Codorus Creek, and 3 miles southwest of York, York County. Zero of gage is 373.03 feet above mean sea level.  
**Drainage area.**- 117 square miles.  
**Records available.**- October 1931 to September 1934 in reports of U. S. Geological Survey; May 1925 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
**Extremes.**- Maximum discharge during year, 5,920 second-feet Sept. 16 (gage height, 10.09 feet); minimum, 1.0 second-foot Feb. 24 (gage height, 0.44 foot); minimum daily discharge, 18 second-feet July 31.  
 1925-34: Maximum discharge, about 19,300 second-feet Aug. 23, 1933 (gage height, 17.97 feet); minimum, that of Feb. 24, 1934; minimum daily discharge, 9.0 second-feet Sept. 15, 23, 1932.  
**Remarks.**- Records fair except those for high stages, which are poor. Discharge estimated for periods of missing gage-height record, Oct. 9-16, 30, 31, Dec. 4-11, 19-21, Mar. 22-31, Apr. 3-11, Aug. 27 to Sept. 2, Sept. 17-20. Regulation from pumping plant upstream. Municipal water supply for York diverted above station not included in records except in part of monthly table. Record of monthly diversion furnished by York Water Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229	47	36	141	53	45	400	101	79	84	21	30
2	293	66	34	132	62	48	272	97	76	47	23	29
3	129	84	54	77	66	842	210	325	73	35	169	32
4	121	70	76	68	59	386	190	383	66	40	104	1,440
5	144	41	72	161	57	238	170	270	105	33	31	125
6												
7	111	116	68	161	55	147	170	236	55	31	19	69
8	99	87	60	218	50	105	180	208	37	57	19	135
9	154	74	50	192	50	98	160	173	33	432	19	310
10	100	65	42	145	53	83	160	160	37	73	34	159
11	90	56	36	121	49	82	140	160	48	54	53	171
12	86	71	32	106	51	77	160	144	145	40	86	92
13	86	47	28	95	54	66	220	134	136	41	404	74
14	88	56	22	102	51	83	152	126	111	41	434	93
15	92	117	26	101	47	109	140	121	62	41	73	86
16	86	71	32	90	48	85	126	140	54	38	111	125
17												
18	88	30	56	82	46	80	93	137	46	33	308	1,380
19	122	31	94	72	39	79	179	114	47	27	146	2,500
20	112	41	85	61	39	88	142	108	50	25	75	500
21	87	40	70	68	44	88	141	100	184	23	59	300
22	89	39	100	64	35	78	226	97	79	24	51	250
23												
24	97	35	110	62	52	71	155	121	59	29	41	230
25	103	35	56	64	50	70	142	125	53	33	41	232
26	75	33	57	113	51	72	156	92	198	21	38	193
27	79	34	54	83	42	60	144	84	73	20	101	166
28	74	33	52	73	39	50	210	195	51	38	163	149
29												
30	43	35	51	73	48	65	129	155	42	123	50	211
31	43	53	45	70	51	60	131	115	40	39	40	96
1	62	74	45	73	50	400	125	101	38	34	40	123
2	120	29	42	60		140	113	93	38	29	39	354
3	71	36	52	44		130	105	98	34	20	35	1,250
4	48		52	49		320		86		18	32	
Month	Observed			Diversions		Corrected for diversions						
	Maximum	Minimum	Mean	(Mean)		Mean	Per square mile	Run-off in inches				
October	293	43	104	10.9		115	0.983	1.13				
November	117	29	54.9	11.0		65.9	.563	.63				
December	110	22	54.5	10.9		65.4	.569	.64				
January	218	44	97.5	11.1		109	.932	1.07				
February	62	35	49.3	11.8		61.1	.522	.54				
March	842	45	140	11.5		152	1.30	1.50				
April	400	93	167	11.5		178	1.52	1.70				
May	383	84	148	11.8		160	1.37	1.58				
June	198	33	71.6	13.5		85.1	.727	.81				
July	432	18	52.4	13.8		66.2	.566	.65				
August	434	19	82.2	12.3		104	.889	1.02				
September	2,500	29	363	11.6		375	3.21	3.58				
The year	2,500	18	116	11.8		128	1.09	14.85				



## Conestoga Creek at Lancaster, Pa.

**Location.**— Water-stage recorder at Pennsylvania Railroad bridge 500 feet below diversion dam of city waterworks and three quarters of a mile east of Lancaster, Lancaster County. Zero of gage is 244.76 feet above mean sea level.

**Drainage area.**— 322 square miles.

**Records available.**— September 1928 to September 1934.

**Extremes.**— Maximum discharge during year ending Sept. 30, 1933, about 22,800 second-feet Aug. 24 (gage height, 17.52 feet); minimum recorded, 93 second-feet Aug. 3 (gage height, 1.86 feet).

Maximum discharge during year ending Sept. 30, 1934, about 15,000 second-feet Sept. 30 (gage height, 14.04 feet); minimum, 4.6 second-feet Jan. 30 (gage height, 1.12 feet); minimum daily discharge, 95 second-feet Nov. 25.

1928-34: Maximum discharge, that of Aug. 24, 1933; no flow over dam Aug. 11, 1930; minimum daily discharge recorded, 9 second-feet Oct. 14, 1931, Sept. 15, 25, 1932.

**Remarks.**— Records poor. Discharge not determined for Oct. 1 to Dec. 31, 1932, Jan. 1 to Apr. 30, June 1-30, 1933, owing to unstable conditions or missing gage-height record. Discharge estimated for periods of missing gage-height record, May 31, Dec. 30, 31, 1933, Jan. 1-10, 1934, and for period of ice effect, Feb. 25 to Mar. 2, 1934. Regulation from operation of waterworks. Water supply for city of Lancaster diverted at gage not included in records except in part of monthly table. Record of diversion furnished by city of Lancaster.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								585		673	194	802
2								555		408	180	742
3								791		1,590	650	700
4								678		596	2,370	980
5								525		341	439	850
6								642		283	317	637
7								1,020		244	281	565
8								786		235	281	535
9								1,260		332	283	505
10								1,620		274	223	490
11								1,060		222	758	460
12								878		197	399	495
13								932		196	303	445
14								795		188	786	512
15								740		188	424	732
16								837		351	306	980
17								1,150		2,560	284	642
18								768		566	284	495
19								685		327	468	415
20								645		253	856	392
21								712		234	371	384
22								611		222	2,490	352
23								493		310	4,510	335
24								556		234	15,400	326
25								1,100		202	3,560	326
26								645		981	2,060	293
27								550		453	1,610	293
28								645		276	1,300	293
29								565		236	1,080	437
30								2,080		216	945	590
31								1,100		207	850	
Month		Observed			Diversión (Mean)	Corrected for diversion						
		Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches				
October.....												
November.....												
December.....												
January.....												
February.....												
March.....												
April.....												
May.....		2,080	493	839	10.7	850	2.64	3.04				
June.....												
July.....		2,560	188	439	11.7	451	1.40	1.61				
August.....		15,400	180	1,427	11.3	1,438	4.47	5.15				
September.....		980	293	527	11.1	538	1.67	1.96				
The year.....												

Conestoga Creek at Lancaster, Pa.  
(Continued)

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	318	182	133	113	218	120	2,900	453	270	170	173	102
2	618	177	135	120	222	150	1,190	444	254	179	163	96
3	366	189	119	150	215	879	921	829	244	205	357	116
4	306	177	144	210	209	2,160	841	1,540	250	252	253	126
5	285	176	151	500	218	1,690	834	844	235	226	163	128
6	285	197	139	900	209	768	705	655	259	278	163	126
7	274	218	141	1,000	202	487	725	590	410	634	148	162
8	263	202	139	1,500	199	384	685	517	254	5,810	148	1,140
9	263	187	124	900	157	332	610	485	223	607	204	488
10	244	133	111	650	179	325	560	462	216	388	194	248
11	235	142	170	415	163	288	561	462	269	299	197	182
12	226	161	103	379	182	292	1,580	430	278	259	377	158
13	238	224	126	370	182	299	857	400	392	1,010	907	161
14	222	172	113	569	165	440	727	405	290	699	348	236
15	215	167	113	406	178	436	670	444	233	301	248	595
16	218	151	128	344	177	384	821	564	200	1,230	230	474
17	276	146	126	306	158	363	1,220	418	188	402	296	1,750
18	438	146	221	259	156	359	762	380	211	263	217	643
19	259	146	186	269	169	392	685	347	457	228	180	440
20	228	148	163	263	153	340	876	332	450	206	182	366
21	216	163	229	248	161	317	704	343	266	203	166	322
22	203	151	211	259	174	310	620	295	344	355	153	586
23	209	153	166	459	180	288	590	454	815	264	142	1,060
24	215	156	146	454	138	250	614	347	270	235	143	498
25	181	95	136	318	130	250	1,060	374	242	302	147	410
26	208	105	151	301	120	292	646	540	221	1,160	136	365
27	191	151	134	281	115	316	590	363	205	259	146	352
28	185	162	124	289	110	1,480	610	308	212	235	139	366
29	183	146	116	287		999	515	292	199	191	130	588
30	192	121	112	195		600	485	287	188	200	121	8,110
31	189		110	235		662		291		180	122	

Month	Observed			Diversión (Mean)	Corrected for diversion		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	618	181	256	12.0	268	0.832	0.96
November.....	224	95	161	13.4	174	.540	.60
December.....	229	103	143	13.7	157	.488	.56
January.....	1,300	113	411	12.5	424	1.32	1.52
February.....	222	110	173	10.1	183	.568	.59
March.....	2,160	120	537	9.8	547	1.70	1.96
April.....	2,900	485	839	9.6	849	2.64	2.94
May.....	1,340	287	474	10.2	484	1.50	1.73
June.....	815	188	285	10.7	296	.919	1.03
July.....	5,810	170	556	11.4	567	1.78	2.03
August.....	907	121	216	11.3	227	.705	.81
September.....	8,110	96	687	10.5	698	2.13	2.38
The year.....	8,110	95	396	11.3	407	1.26	17.11



## Muddy Creek at Castle Fin, Pa.

Location.- Water-stage recorder 1 mile downstream from Castle Fin, York County, and 2 3/4 miles upstream from mouth of creek.

Drainage area.- 133 square miles.

Records available.- October 1928 to September 1934.

Extremes.- Maximum discharge during year, 8,500 second-feet Sept. 17 (gage height, 12.92 feet); minimum, 5.4 second-feet Sept. 3; minimum gage height, 1.12 feet July 5, 7.

1928-34: Maximum discharge, about 16,600 second-feet Aug. 23, 1933 (gage height, 21.11 feet); minimum gage height, 0.90 foot Nov. 29, 1930 (discharge not determined).

Remarks.- Records fair except those for estimated periods, which are poor. Discharge estimated for period of missing gage-height record, Nov. 10 to Dec. 22, and for periods of ice effect, Dec. 28-31, Jan. 31 to Mar. 2. Slight regulation from operation of hydroelectric plant upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	122	97	38	158	82	70	508	154	136	224	143	72
2	210	95	37	181	100	90	344	153	127	120	129	54
3	133	99	42	122	95	1,160	272	1,190	124	80	531	44
4	134	95	55	105	90	610	257	650	119	99	483	111
5	122	93	70	260	86	475	243	476	114	89	164	78
6	124	171	65	224	80	244	201	351	103	91	112	76
7	116	119	60	291	77	182	233	309	118	63	109	185
8	114	104	55	249	73	161	200	270	113	404	117	417
9	114	99	48	191	70	139	182	247	110	123	122	172
10	109	98	40	160	70	136	170	223	106	103	175	116
11	106	110	35	139	72	121	209	226	179	94	214	92
12	103	90	33	127	80	122	274	112	205	91	543	92
13	105	91	32	136	86	134	198	201	189	101	646	86
14	114	180	32	132	82	164	177	192	130	116	166	122
15	102	120	35	121	80	140	168	223	110	84	97	138
16	104	80	60	114	80	125	288	215	100	108	416	650
17	218	50	120	109	65	126	260	182	102	72	315	1,900
18	138	47	110	92	65	123	210	171	92	85	141	324
19	116	47	100	104	70	144	197	162	270	109	114	234
20	109	45	105	102	75	126	310	155	141	143	106	189
21	106	42	115	86	80	107	217	151	105	139	88	166
22	103	40	98	108	85	105	198	159	108	150	76	231
23	109	39	89	208	90	108	192	159	139	149	80	308
24	107	38	95	136	85	104	210	145	120	121	78	166
25	113	38	64	119	70	85	288	295	96	121	136	149
26	101	40	99	116	68	131	202	211	83	265	88	141
27	101	50	70	111	66	111	206	168	93	136	80	140
28	102	64	60	105	66	571	184	150	96	154	72	148
29	93	45	57	101		267	168	143	95	141	78	158
30	103	40	55	89		205	162	146	210	143	70	489
31	99		60	82		485	134	134		150	69	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	218		38		118		0.887		1.02			
November	180		37		78.9		.593		.66			
December	120		32		65.6		.493		.57			
January	291		82		141		1.06		1.22			
February	100		65		78.1		.587		.61			
March	1,160		70		222		1.67		1.92			
April	508		162		231		1.74		1.94			
May	1,190		134		249		1.87		2.16			
June	270		83		128		.962		1.07			
July	404		63		131		.965		1.14			
August	646		69		186		1.40		1.61			
September	1,900		44		241		1.81		2.02			
The year	1,900		32		156		1.17		15.94			

## POTOMAC RIVER BASIN



Evitts Creek near Bedford Valley, Pa.

Location.- Water-stage recorder 2 miles upstream from Thomas W. Koon Dam, half a mile upstream from backwater from the dam, 3 miles south of Bedford Valley Post Office, Bedford County.

Drainage area.- 30.2 square miles.

Drainage area.- 30.2 square miles.  
Records available.- September 1932 to September 1934.

Drainage area.- 30.2 square miles September 1932 to September 1934.  
Records available.- September 1932 to September 1934.  
Extremes.- Maximum discharge during year, 441 second-feet Jan. 7 (gauge height, 2.90 feet); minimum, 1.2 second-feet July 27 (gauge height, 0.96 foot).  
Discharge.- About 820 second-feet Mar. 14, 1933 (gauge height, 1.25 foot).

feet); minimum, 1.2 second-feet July 27 (gage height, 0.96 foot).  
1932-34: Maximum discharge, about 820 second-feet Mar. 14, 1933 (gage height 3.55 feet); minimum, that of July 27, 1934.

height 3.55 feet); minimum, that of July 27, 1934.  
Remarks.—Records good except those above 200 second-feet and those estimated because  
of ice Feb. 10 to Mar. 2, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11.5	3.8	3.4	103	12	6.0	37	14.5	6.1	3.4	1.8	1.8
2	9.8	3.8	3.4	41	11	7.0	31	14	5.8	3.2	1.8	1.8
3	5.0	3.8	4.0	26	9.8	15	28	16	5.0	2.9	7.9	1.8
4	4.4	3.6	7.8	25	10	20	84	16.5	5.0	2.6	3.2	1.9
5	4.2	4.8	6.1	112	11	30	74	14.5	4.6	2.6	2.3	2.6
6	4.0	12	5.0	64	9.8	20	56	14	4.4	2.7	1.9	2.2
7	4.0	8.5	4.8	301	9.5	12	64	13	4.4	3.1	1.8	1.9
8	3.8	6.1	4.4	163	9.5	11.5	51	12	4.0	4.4	1.8	2.3
9	4.2	5.3	4.2	94	7.6	10	44	11.5	6.1	2.9	2.6	2.3
10	4.0	4.8	3.8	68	7.0	9.8	40	11.6	6.6	3.1	2.6	2.0
11	3.8	4.6	3.4	53	7.0	9.5	49	12	5.0	2.7	2.7	1.9
12	3.8	4.4	3.8	45	8.0	10	48	11.5	5.8	5.3	3.4	2.0
13	3.6	4.4	3.8	43	8.0	11	39	10.5	6.1	4.4	4.6	1.9
14	3.4	4.8	4.2	38	8.0	11	37	10.5	4.6	8.5	4.8	2.6
15	3.4	4.0	4.6	32	8.0	12.5	32	14.5	4.0	4.0	3.6	2.9
16	3.4	3.8	15.5	28	9.0	12.5	37	15	3.8	2.9	56	71
17	8.1	3.6	40	24	8.0	13	35	12	3.4	2.3	28	37
18	5.8	4.3	38	22	7.0	14.5	29	11	14.5	2.0	7.8	9.8
19	4.4	5.0	19	20	8.0	14	28	10	55	2.0	5.3	7.2
20	4.2	5.0	23	18	8.0	13.5	28	9.5	12	2.0	4.0	5.8
21	4.0	4.4	23	17.5	8.0	13.5	25	9.2	7.5	2.0	3.1	5.0
22	4.4	4.2	16	17.5	6.0	13.5	23	8.5	6.3	1.8	2.7	6.3
23	5.8	4.2	14	19	5.5	12	24	8.5	6.3	1.7	2.6	5.6
24	5.3	4.0	13	14.5	5.0	12	22	8.1	5.6	1.6	2.6	4.8
25	4.4	3.8	13	15.5	6.0	13	19.5	11	4.8	1.6	3.4	4.2
26	4.0	4.0	13.5	15.5	5.0	16.5	19	10	4.0	1.6	3.2	4.0
27	3.8	4.0	9.8	15	5.0	33	18	8.5	3.8	1.5	2.6	5.0
28	3.8	3.8	12	15.5	5.0	64	16.5	7.8	3.8	4.6	2.4	4.2
29	3.6	3.8	11.5	12		40	15.5	7.2	3.6	3.2	2.4	25
30	3.8	3.8	19.5	12		34	15	7.2	3.1	2.4	2.2	46
31	3.8		28	12		35		6.9		2.2	1.9	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					11.5	3.4	4.69	0.155		0.18		
November.....					12	3.6	4.69	.155		.17		
December.....					40	3.4	12.1	.401		.46		
January.....					301	12	47.7	1.58		1.82		
February.....					12		7.88	.261		.27		
March.....					64		17.7	.586		.68		
April.....					84	15	35.6	1.18		1.32		
May.....					16.5	6.9	11.2	.371		.43		
June.....					55	3.1	7.17	.237		.26		
July.....					8.5	1.5	2.94	.097		.11		
August.....					56	1.8	5.71	.189		.22		
September.....					71	1.8	9.09	.301		.34		
The year.....					301	1.5	13.9	.460		6.26		

Licking Creek near Sylvan, Pa.

Location.- Chain gage on highway bridge a tenth of a mile north of Pennsylvania-Maryland State line, 3 miles south of Sylvan, Franklin County, and 15 miles above mouth.

Drainage area.- 158 square miles.

Drainage area.- 158 square miles.  
Records available.- June 1930 to September 1934.

Extremes.- Maximum discharge recorded during year, about 3,240 second-feet Sept. 17 (gage height, 9.4 feet); minimum, 9 second-feet Sept. 3, 4 (gage height, 0.96 foot).

1930-34: Maximum discharge recorded that of Sept. 17, 1934; minimum, 3.0 second-feet Aug. 8, 1930 (gage height, 0.64 foot).

Remarks.- Records good except those above 2,000 second-feet and those estimated because of ice Dec. 11-14, 27-31, Jan. 29 to Mar. 2, which are fair.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	36	21	73	52	38	243	81	34	17	24	11
2	84	32	20	462	45	40	202	76	50	16	17	10
3	73	31	19	289	42	52	202	86	25	15	24	9
4	48	30	22	192	45	87	174	140	25	15	23	9
5	40	28	27	462	45	277	462	117	23	13	27	58
6	39	34	29	637	42	399	355	96	20	12	16	40
7	41	50	26	1,140	38	202	369	90	21	20	14	31
8	34	54	24	1,140	35	148	341	81	21	33	12	26
9	34	41	24	564	28	117	289	69	25	20	10	23
10	34	36	16	369	28	96	265	69	27	14	14	18
11	30	36	19	254	31	90	323	70	36	12	27	16
12	29	34	18	202	32	72	960	68	33	12	60	23
13	27	32	17	174	32	86	529	60	30	14	78	124
14	24	35	16	156	31	105	369	57	24	19	50	124
15	23	36	17	140	30	90	277	65	21	13	36	222
16	20	27	22	117	32	75	302	87	20	12	49	192
17	64	27	53	103	30	86	341	69	18	10	202	1,500
18	124	29	222	69	33	96	277	58	18	10	110	328
19	62	27	174	86	33	96	265	54	86	10	66	212
20	49	32	140	77	30	85	289	51	117	10	47	148
21	43	32	132	78	32	81	277	48	60	11	36	117
22	40	30	110	78	32	78	212	61	39	11	28	132
23	40	28	89	84	29	80	192	53	36	10	23	148
24	62	29	96	77	26	69	165	46	30	10	19	103
25	66	25	76	77	27	39	140	46	30	10	19	85
26	55	25	78	82	24	90	132	46	24	10	40	72
27	48	22	60	66	33	77	117	44	21	12	25	67
28	42	22	52	65	36	369	110	40	19	86	21	65
29	41	24	47	60		302	96	38	19	124	16	70
30	38	24	45	50		232	85	36	17	44	14	960
31	34		50	52		202		34		30	19	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					124	20	45.8	0.290		0.33		
November.....					54	22	31.6	.200		.22		
December.....					222	16	56.5	.358		.41		
January.....					1,140		241	1.53		1.78		
February.....							34.0	.215		.22		
March.....					399		127	.304		.93		
April.....					960	86	279	1.77		1.98		
May.....					140	34	65.6	.415		.48		
June.....					117	17	31.6	.200		.22		
July.....					124	10	21.1	.134		.15		
August.....					202	10	37.6	.238		.27		
September.....					1,500	9	165	1.04		1.16		
The year.....					1,500	9	94.8	.600		8.13		



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OHIO RIVER BASIN

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## Allegheny River at Larabee, Pa.

**Location.**- Chain gage at bridge on U. S. Highway 6 at Larabee, McKean County,  $1\frac{1}{2}$  miles below mouth of Potato Creek and  $3\frac{1}{2}$  miles south of Eldred.

**Drainage area.**- 541 square miles.

**Records available.**- October 1920 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; June 1915 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**- 10 years (1920-21, 1925-34), 798 second-feet.

**Extremes.**- Maximum discharge recorded during year, 4,080 second-feet Jan. 2 (gage height, 11.60 feet); minimum, about 0.1 second-foot July 25 (gage height, 0.22 foot); minimum daily discharge, 3.5 second-feet Aug. 8.

1915-34: Maximum discharge, about 9,100 second-feet Nov. 18, 1927 (gage height, 17.6 feet, from graph based on gage readings); minimum, that of July 25, 1934; minimum daily discharge, that of Aug. 8, 1934.

**Remarks.**- Records fair except those estimated for periods of ice effect, Nov. 16-21, Dec. 10-16, 28-31, Jan. 30 to Mar. 3, and those below 10 second-feet, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	116	950	2,940	410	114	1,860	387	127	30	26	28
2	60	104	1,010	3,960	370	120	1,700	427	121	38	44	22
3	64	108	1,070	3,720	330	200	1,860	407	108	34	51	17
4	38	114	1,130	2,760	300	2,520	2,180	407	97	18	106	17
5	69	108	1,130	2,060	270	3,630	2,220	387	129	84	51	18
6	91	104	890	1,780	250	3,060	1,980	368	143	40	22	18
7	86	123	755	1,780	230	1,880	1,940	368	119	60	11	20
8	86	143	730	2,360	220	1,460	1,580	332	75	112	3.5	34
9	86	147	680	1,730	210	1,040	1,460	315	114	97	15	119
10	95	137	600	1,780	200	730	1,460	332	99	36	12	32
11	108	131	480	1,700	190	705	2,220	407	88	28	22	55
12	121	167	420	1,420	180	755	3,840	350	71	32	58	36
13	110	358	390	1,130	170	1,130	3,900	332	123	26	131	34
14	95	632	370	950	160	1,070	3,360	332	95	80	116	14
15	60	538	350	833	155	1,010	2,660	332	40	66	80	17
16	14	450	450	705	150	950	1,980	280	66	44	51	84
17	95	360	950	656	145	833	1,580	262	51	36	49	244
18	97	300	1,520	656	140	656	1,420	262	51	22	49	157
19	91	270	1,190	608	135	656	1,250	262	219	17	38	95
20	82	270	1,100	538	130	632	1,160	225	262	17	28	62
21	91	350	1,130	492	125	584	1,040	216	139	17	24	60
22	102	1,130	1,160	515	125	561	930	225	110	18	20	51
23	93	1,040	1,190	584	130	538	920	225	106	9.0	22	75
24	127	920	1,800	632	130	538	833	206	93	5.3	44	77
25	143	920	1,940	705	125	608	780	234	66	5.3	32	64
26	196	1,130	1,860	780	120	608	705	206	66	7.0	20	64
27	157	1,190	1,580	890	117	705	680	177	53	14	28	55
28	157	920	1,250	1,070	114	730	608	167	44	14	51	80
29	141	890	1,150	888		633	538	157	40	20	93	239
30	129	890	1,100	650		920	492	147	42	20	77	561
31	121		1,600	500		1,280		135		14	32	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	196	14	99.2	0.183	0.21							
November	1,190	104	469	.867	.97							
December	1,940	350	1,033	1.91	2.20							
January	3,960	492	1,349	2.49	2.87							
February	410	114	190	.351	.37							
March	3,630	114	1,002	1.85	2.13							
April	3,900	492	1,640	3.03	3.38							
May	427	135	286	.529	.61							
June	262	40	98.6	.182	.20							
July	112	5.3	34.2	.063	.07							
August	131	3.5	45.4	.084	.10							
September	561	14	83.3	.154	.17							
The year	3,960	3.5	530	.980	13.28							

## Allegheny River at Franklin, Pa.

**Location.**- Water-stage recorder at Eighth Street Bridge at Franklin, Venango County. Chain gage at same site but with datum 2.00 feet higher used prior to Oct. 1, 1932. Zero of gage is 956.26 feet above mean sea level.

**Drainage area.**- 5,982 square miles.

**Records available.**- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; April 1905 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**- 16 years (1918-34), 9,579 second-feet.

**Extremes.**- Maximum discharge during year, 60,500 second-feet Jan. 2 (gage height, 13.54 feet); maximum gage height, 15.2 feet Mar. 5 (affected by ice); minimum, 334 second-feet July 30 (gage height, 1.63 feet).

1905-34: Maximum discharge (estimated), 152,000 second-feet Mar. 26, 1913; maximum gage height, 26.0 feet, present datum, Feb. 27, 1917 (caused by ice jam); minimum discharge, that of July 30, 1934.

Maximum free-flow stage known, 25.0 feet, present datum, Mar. 17, 1865 (discharge not determined).

**Remarks.**- Records fair. Discharge estimated for periods of ice effect, Nov. 16-20, Dec. 14-17, Jan. 19-23, Feb. 1 to Mar. 5, and determined from graphs based on chain gage readings Dec. 27-30, Jan. 6-17, Jan. 30 to Feb. 3, Feb. 9, 10, 14-17, Feb. 21 to Mar. 2.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,220	1,260	19,600	29,600	7,200	2,300	14,900	5,640	1,420	702	530	570
2	1,140	1,190	17,400	57,700	6,000	2,600	15,900	5,130	1,340	646	480	550
3	1,040	1,130	15,400	48,100	5,200	6,000	15,900	4,760	1,260	580	927	520
4	954	1,100	12,500	35,500	4,600	26,000	24,300	4,440	1,220	580	798	510
5	919	1,090	16,900	26,100	4,100	37,000	28,500	4,190	1,390	668	657	490
6	875	1,130	14,900	22,500	3,700	52,800	25,500	3,940	1,340	690	580	453
7	864	1,130	12,000	20,700	3,500	43,500	21,900	3,630	1,210	750	520	426
8	842	1,150	9,970	23,100	3,200	32,700	19,000	3,350	1,150	786	490	444
9	864	1,280	8,370	22,500	3,000	23,100	16,400	3,120	1,110	738	657	453
10	875	1,470	6,880	19,600	2,800	16,900	13,900	2,930	1,140	702	1,050	453
11	886	1,650	5,470	15,900	2,700	13,500	16,900	2,880	1,190	657	836	435
12	875	1,770	4,400	12,600	2,600	9,560	36,000	2,860	1,070	624	726	435
13	842	2,150	3,260	11,300	2,550	8,560	36,000	2,910	1,020	646	646	444
14	810	4,110	2,700	10,800	2,500	11,000	30,300	2,910	1,010	668	602	480
15	780	7,060	3,500	9,970	2,450	15,900	26,100	2,840	982	624	646	932
16	780	4,900	10,000	8,950	2,410	14,900	23,100	2,790	940	540	750	1,210
17	810	3,700	13,000	7,800	2,370	13,000	20,100	2,660	901	520	738	1,180
18	820	3,500	18,400	6,340	2,340	13,800	17,400	2,480	888	480	750	1,620
19	864	3,400	17,400	5,600	2,310	14,900	14,900	2,350	1,250	462	726	1,260
20	930	4,500	15,900	5,400	2,290	13,900	13,000	2,210	1,310	500	657	1,190
21	1,030	5,470	26,300	5,500	2,270	12,700	11,500	2,130	1,360	490	591	1,110
22	1,180	12,900	27,500	5,600	2,250	15,400	10,400	2,010	1,190	490	540	954
23	1,260	27,500	21,900	6,800	2,230	13,700	9,560	1,920	1,180	462	530	888
24	1,190	26,100	17,400	10,600	2,210	10,600	9,150	1,860	1,110	435	550	774
25	1,220	19,600	20,500	11,500	2,190	8,950	8,950	1,880	940	399	560	927
26	1,360	13,900	24,900	11,300	2,180	8,180	8,760	1,660	810	366	540	1,010
27	1,700	16,200	19,000	10,800	2,170	10,400	7,990	1,810	875	358	520	1,050
28	1,800	18,400	12,600	11,200	2,160	19,000	7,430	1,720	968	374	520	940
29	1,630	14,900	9,970	17,400		20,700	6,880	1,620	798	358	520	1,250
30	1,470	12,800	12,000	13,300		17,400	6,160	1,560	810	366	560	1,670
31	1,360		8,000	8,370		15,400		1,480		530	602	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,800	780	1,071	0.179	0.21
November	27,300	1,090	7,208	1.20	1.34
December	27,300	2,700	13,800	2.31	2.66
January	57,700	5,400	16,520	2.76	3.18
February	7,200	2,160	3,053	.510	.53
March	52,800	2,300	16,910	2.83	3.26
April	36,000	6,160	17,230	2.88	3.21
May	5,640	1,480	2,835	.474	.55
June	1,420	798	1,106	.185	.21
July	786	358	555	.093	.11
August	1,050	480	639	.107	.12
September	1,670	426	821	.137	.15
The year	57,700	358	6,846	1.14	15.53



## Allegheny River at Parkers Landing, Pa.

**Location.**— Water-stage recorder at highway bridge at Parkers Landing, Armstrong County, 1.1 miles below mouth of Clarion River. Zero of gage is 845.14 feet above mean sea level.

**Drainage area.**— 7,671 square miles.

**Records available.**— October 1932 to September 1934.

**Extremes.**— Maximum discharge during year, 67,300 second-feet Jan. 2 (gage height, 12.78 feet); maximum gage height, 27.85 feet Mar. 5 (affected by ice); minimum, 409 second-feet July 30 (gage height, 0.67 foot).

1932-34: Maximum discharge, 68,900 second-feet Mar. 16, 1933 (gage height, 13.02 feet); minimum, that of July 30, 1934.

Maximum stage known, 29.0 feet in March 1865 (discharge not determined).

**Remarks.**— Records fair except those for extremely high stages and those estimated for periods of ice effect, Nov. 18, Jan. 30 to Mar. 6, which are poor. Regulation at low stages from power operations on Clarion River.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,180	1,600	16,600	39,300	9,200	2,700	17,800	6,720	1,850	1,510	660	983
2	2,050	1,520	19,400	65,300	8,000	3,000	19,200	5,990	1,850	1,040	776	793
3	2,810	1,420	15,100	54,700	7,000	6,500	19,800	5,640	1,770	862	1,150	811
4	2,630	1,380	12,700	40,500	6,100	30,000	27,000	5,390	1,490	932	1,750	710
5	2,600	1,340	17,300	29,600	5,400	40,000	36,300	5,110	1,410	932	1,200	611
6	2,110	1,420	16,700	25,200	4,800	60,000	32,900	5,010	1,730	967	897	595
7	1,150	1,440	14,200	24,600	4,400	50,500	29,000	4,500	1,530	1,080	743	569
8	1,060	1,440	11,600	29,600	4,100	39,800	24,000	4,170	1,490	1,370	862	811
9	1,060	1,480	10,000	28,400	3,800	28,400	19,800	3,930	1,340	1,340	776	564
10	1,060	1,640	8,480	25,200	3,600	19,700	18,600	3,770	1,540	1,730	1,220	548
11	1,080	1,820	6,380	21,400	3,450	15,200	20,600	4,000	1,490	1,530	1,320	548
12	1,080	2,010	5,020	17,800	3,500	11,200	37,400	4,240	1,490	1,540	1,220	532
13	1,060	2,230	3,690	15,400	3,200	10,600	43,500	4,060	1,570	1,560	1,370	548
14	1,040	3,190	2,990	12,900	3,100	12,600	38,400	3,430	1,260	1,450	1,650	564
15	1,240	5,850	3,440	12,700	3,000	13,800	32,200	3,580	1,290	1,040	1,270	645
16	1,020	6,730	8,500	11,400	2,900	18,600	28,400	3,480	1,260	1,100	1,190	1,200
17	1,160	4,350	13,700	9,750	2,820	15,500	24,600	3,500	1,440	1,410	1,400	2,010
18	1,060	4,200	18,600	7,920	2,750	15,500	20,100	3,280	1,210	1,320	1,320	1,870
19	1,040	4,380	21,600	7,210	2,700	16,700	18,900	3,130	1,530	1,540	1,150	2,010
20	1,060	5,070	19,300	7,350	2,650	16,700	16,900	2,940	1,980	1,570	1,020	1,740
21	1,130	5,530	27,600	6,670	2,600	15,000	14,100	2,600	1,810	1,240	949	1,660
22	1,510	7,780	34,200	7,000	2,550	16,100	12,100	2,750	2,040	1,180	776	1,480
23	1,560	23,100	28,400	8,200	2,500	16,600	11,500	2,680	1,810	743	811	1,170
24	1,520	27,700	21,700	10,400	2,470	13,000	11,000	2,640	1,620	611	811	1,080
25	1,440	25,100	21,000	13,200	2,440	10,600	10,500	2,510	1,360	548	1,170	1,080
26	1,480	16,200	28,400	13,100	2,420	10,100	10,300	2,530	1,220	501	845	1,350
27	1,660	14,700	23,700	12,600	2,400	15,700	9,720	2,330	1,350	470	743	1,390
28	1,990	18,700	16,800	11,900	2,400	27,600	8,680	2,130	1,260	454	710	1,430
29	2,060	17,300	12,400	19,800		28,400	7,900	2,250	1,300	517	811	1,840
30	1,890	13,600	9,900	14,000		23,400	7,080	2,130	1,200	501	726	3,030
31	1,720		18,100	11,000		20,500		1,810		564	726	
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	2,810		1,040		1,533		0.200		0.23			
November	27,700		1,340		7,407		.966		1.08			
December	34,200		2,990		15,730		2.05		2.36			
January	65,300		6,670		19,810		2.58		2.97			
February	9,200		2,400		3,788		.494		.51			
March	60,000		2,700		20,050		2.61		3.01			
April	43,300		7,080		20,940		2.73		3.05			
May	6,720		1,810		3,610		.471		.54			
June	2,040		1,200		1,508		.197		.22			
July	1,730		454		1,069		.139		.16			
August	1,750		660		1,034		.135		.16			
September	5,030		532		1,146		.149		.17			
The year	65,300		454		8,175		1.07		14.46			

## Ohio River at Sewickley, Pa.

**Location.**— Water-stage recorder 200 feet upstream from highway bridge at Sewickley, Allegheny County, and 1½ miles upstream from Dashields Dam. Zero of gage is 690.00 feet above mean sea level.

**Drainage area.**— 19,500 square miles.

**Records available.**— October 1933 to September 1934.

**Extremes.**— Maximum discharge during year, 202,000 second-feet Mar. 6 (gage height, 12.51 feet); minimum, about 2,000 second-feet July 25, minimum daily discharge, 2,150 second-feet July 25.

Maximum stage known, about 28 feet during flood of March 1907 (discharge not determined). Floods of earlier dates may have been higher.

**Remarks.**— Records good except those below 10,000 second-feet and those for estimated periods, which are fair. Discharge estimated for periods of faulty gage-height record, Oct. 21, Nov. 12-15, 23, Dec. 12-14, Jan. 2-4, Feb. 21-23, July 17-19, Aug. 22, and for periods of ice effect, Feb. 13 to Mar. 2. Discharge corrected for periods during which flashboards were used on dam, Oct. 1-23, July 19 to Aug. 22, and for period of construction of new crest of dam, Aug. 23 to Sept. 30. Some regulation at low stages from operation of locks upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	6,360	3,360	19,600	31,900	22,900	4,800	48,600	15,500	4,670	3,540	4,940	4,400		
2	6,200	3,360	25,000	83,400	24,300	6,500	40,000	14,700	4,470	3,420	4,080	3,770		
3	5,740	3,360	25,000	107,000	22,900	18,200	41,000	13,700	4,530	3,600	5,150	3,360		
4	6,750	3,480	20,200	87,400	18,900	81,600	48,600	12,700	4,340	3,250	5,810	3,190		
5	7,000	3,600	20,200	70,800	15,700	139,000	101,000	11,000	3,830	3,190	7,000	2,980		
6	6,430	3,890	28,900	66,600	16,400	172,000	91,400	10,200	3,250	3,420	5,520	2,760		
7	6,120	4,020	27,300	78,400	15,100	136,000	81,300	9,360	3,420	3,420	4,880	2,620		
8	6,510	4,270	25,900	134,000	14,100	95,400	74,500	9,090	3,420	2,810	4,540	2,380		
9	5,660	4,340	24,300	115,000	12,100	70,600	56,500	8,280	3,080	2,870	8,900	2,580		
10	3,540	5,590	18,900	33,400	10,300	54,500	47,600	8,280	2,980	3,140	11,500	2,570		
11	3,080	6,590	15,200	64,500	7,670	42,000	44,800	8,900	2,980	3,190	11,800	2,470		
12	2,710	5,900	13,100	50,500	6,620	32,100	56,500	9,360	3,360	3,710	16,200	2,330		
13	2,620	5,200	11,300	42,000	6,400	26,600	81,300	10,300	3,890	4,210	13,700	2,620		
14	2,570	7,600	10,500	33,800	6,200	32,100	79,200	10,300	4,080	13,400	11,600	3,770		
15	2,660	10,000	10,400	28,100	6,000	46,700	69,800	9,360	4,080	18,900	10,800	6,920		
16	2,920	12,300	15,600	28,900	5,300	50,500	60,500	10,500	3,890	9,930	12,300	7,530		
17	2,810	12,900	41,000	25,800	5,650	44,800	54,500	11,900	4,020	6,280	35,500	9,360		
18	2,710	12,900	106,000	22,200	5,500	39,100	50,500	12,800	3,770	5,220	35,500	12,000		
19	2,870	13,700	99,400	13,900	5,400	36,400	42,900	12,900	5,370	3,830	21,500	10,400		
20	3,890	13,000	70,800	17,700	5,300	39,100	37,300	10,200	10,600	4,340	12,800	7,750		
21	4,100	15,000	77,000	15,500	5,200	36,400	33,000	8,540	10,300	4,020	9,090	6,120		
22	4,340	18,300	93,400	14,600	5,100	32,100	27,300	8,190	8,190	3,540	7,250	5,290		
23	4,400	21,400	76,100	15,600	5,000	33,800	22,900	8,020	7,410	2,980	6,430	4,740		
24	3,950	39,100	56,500	20,200	4,900	29,700	22,900	7,950	7,160	2,970	10,500	4,400		
25	3,650	39,100	48,600	25,000	4,800	22,200	20,600	7,500	6,510	2,160	16,700	3,770		
26	3,360	28,900	46,700	28,100	4,750	20,200	18,900	7,160	5,810	2,240	13,400	3,650		
27	3,600	21,500	48,600	28,100	4,700	28,700	18,300	6,750	5,810	2,280	9,740	3,950		
28	4,400	24,300	37,300	27,300	4,650	78,400	18,300	6,280	5,290	2,420	8,810	3,950		
29	3,830	26,600	26,600	30,500		95,400	18,300	6,040	4,880	3,890	7,410	9,090		
30	3,360	24,300	20,800	38,200		76,800	16,600	6,120	4,640	5,150	5,890	28,100		
31	3,890		19,600	27,300		58,500		5,520		5,290	5,010			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					7,000		2,570		4,269		0.218		0.25	
November.....					39,100		3,360		13,260		.680		.76	
December.....					106,000		10,400		38,050		1.95		2.25	
January.....					134,000		14,600		47,120		2.42		2.79	
February.....					24,300		4,650		8,726		.499		.52	
March.....					172,000		4,800		54,190		2.78		3.20	
April.....					101,000		16,600		47,500		2.44		2.72	
May.....					15,500		5,520		9,593		.492		.57	
June.....					10,600		2,980		5,001		.256		.29	
July.....					18,900		2,150		4,597		.236		.27	
August.....					35,600		4,090		11,107		.569		.66	
September.....					28,100		2,350		5,614		.288		.32	
The year.....					172,000		2,150		20,960		1.07		14.60	



Brokenstraw Creek at Youngsville, Pa.

Location.- Chain gage at highway bridge at Youngsville, Warren County. Zero of gage is 1,187.92 feet above mean sea level (Datum of gage lowered 1.00 foot effective Oct. 1, 1933).

Drainage area.- 304 square miles.

Drainage area.- 304 square miles.  
Records available.- October 1919 to September 1921, October 1931 to September 1934  
in reports of U. S. Geological Survey; October 1909 to September 1934 in reports  
of Pennsylvania Department of Forests and Waters.  
(1910-15, 1919-34), 547 second-feet. (mean height 7.4

average discharge - 20 years (1910-15, 1919-34), 547 second-feet.

Average discharge.— 20 years (1910-15, 1919-34), 547 second-feet.  
Extremes.— Maximum discharge during year, 4,730 second-feet Jan. 1 (gage height, 7.4  
 based on gage readings); minimum, 24 second-feet Sept. 3, 5, 6

Extremes. - Maximum discharge during year, 4,700 cfs. (gauge readings); minimum, 24 second-feet Sept. 3, 1913 (gauge height, 0.30 foot). Gauge height 13.2 feet (present datum) Mar. 25, 1913.

1909-34: Maximum gage height, 13.2 feet (present datum) Mar. 25, 1913  
(date above not determined); minimum, that of Sept. 3, 5, 6, 1934.

1909-34: Maximum gage height, 13.0 feet, that of Sept. 3, 5, 6, 1934.  
(discharge not determined); minimum, that of Sept. 3, 5, 6, 1934.  
Remarks. - Records fair except those above 3,000 second-feet and those estimated  
for periods of ice effect, Nov. 28-30, Dec. 13-15, Feb. 6 to Mar. 1, which are  
poor. No gage height record and discharge estimated June 4-8.

Daily and monthly discharge, in second-feet, 1933-34

Daily and monthly discharge, 1900.												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	63	1,370	4,120	464	140	630	189	76	41	26	26
2	45	60	850	4,030	360	148	630	168	73	39	27	26
3	45	57	556	2,050	304	1,050	605	166	70	42	38	25
4	45	63	1,060	913	270	2,280	1,140	156	68	47	47	26
5	46	56	970	605	235	3,730	722	151	110	54	36	25
6	47	63	656	682	220	2,250	850	156	75	54	31	25
7	46	67	486	910	206	1,620	682	154	60	50	27	26
8	45	85	380	1,030	195	1,160	556	140	57	48	27	26
9	43	92	287	850	188	605	442	133	55	47	33	27
10	42	107	238	630	181	406	400	133	61	42	37	27
11	39	111	189	464	176	304	1,240	135	68	39	34	26
12	40	123	156	380	170	322	1,370	129	61	39	31	25
13	39	269	144	341	166	380	970	129	57	48	31	36
14	34	568	132	322	162	794	792	140	57	47	30	33
15	34	412	160	304	158	682	736	151	55	41	37	33
16	38	275	1,860	254	154	605	736	144	54	34	35	48
17	46	275	1,370	211	150	605	630	142	54	35	38	52
18	57	296	1,270	226	146	850	509	142	52	33	36	38
19	90	321	682	251	142	682	421	142	106	32	32	30
20	83	346	967	254	138	556	360	137	79	35	29	28
21	72	415	1,890	229	135	486	304	135	64	33	27	26
22	72	2,260	1,580	214	131	850	287	140	60	33	26	27
23	73	2,850	970	592	129	486	287	129	57	34	28	42
24	75	1,970	910	682	127	442	304	129	44	27	28	38
25	111	1,320	970	605	126	287	322	131	43	27	28	34
26	139	970	736	656	125	270	287	120	46	27	27	30
27	115	1,500	360	464	124	858	287	108	50	30	28	30
28	101	1,000	322	1,150	126	1,010	254	104	57	30	41	32
29	81	800	304	970		656	226	93	49	28	40	40
30	73	1,100	287	656		556	208	86	43	27	36	44
31	66		558	605		556		79		29	30	
Month				Maximum		Minimum		Mean		Per square mile		Run-off in inches
October.....				139		34		62.1		0.204		0.24
November.....				2,850		56		590		1.94		2.16
December.....				1,890		132		731		2.40		2.77
January.....				4,120		211		327		2.72		3.14
February.....				464		124		186		.612		.64
March.....				3,730		140		829		2.73		3.15
April.....				1,370		208		573		1.88		2.10
May.....				189		79		135		.444		.51
June.....				110		43		62.0		.204		.23
July.....				54		27		37.8		.124		.14
August.....				47		26		32.3		.106		.12
September.....				52		25		51.7		.104		.12
The year.....				4,120		25		343		1.13		15.32

Tionesta Creek at Nebraska, Pa.

Location.- Staff gage at highway bridge at Nebraska, Forest County, one-third mile below mouth of Coon Creek. Zero of gage is 1,079.00 feet above mean sea level. Drainage area - 481 square miles (revised).

below mouth of Coon Creek. Zero of ga  
Drainage area.- 481 square miles (revised).

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; October 1909 to September 1911 in report of Flood Commission of Pittsburgh, 1911; August 1923 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.— Maximum discharge recorded during year ending Sept. 30, 1933, 5,140 second-foot Mar. 21 (gage height, 7.10 feet); minimum, 33 second-feet Aug. 22 (gage height, 0.18 foot).

Maximum discharge during year ending Sept. 30, 1934, about 16,900 second-foot Mar. 4 (gage height, 11.4 feet, from graph based on gage readings); minimum, 28 second-foot July 25, 26 (gage height, 0.11 foot).

28 second-feet July 25, 26 (stage height, 6.11 1933;  
1909-11, 1923-34: Maximum discharge, that of Mar. 4, 1934; minimum, 25  
second-feet Sept. 7-10, 25, 1927.

Remarks.- Records fair except those estimated for periods of ice effect, Nov. 27 to Dec. 3, Dec. 12-23, 1932, Jan. 14-19, Feb. 11-19, Dec. 13, 14, 1933, Feb. 1 to Mar. 4, 1934, and for periods of missing gage-height record, July 7-28, Dec. 18, 19, and 23-31, 1933, Jan. 5-7, Jan. 9 to Feb. 3, 1934, which may be poor.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	156	240	633	531	1,270	2,340	396	607	102	52	39
2	40	396	245	935	688	1,060	2,430	396	551	135	68	37
3	37	337	255	870	607	935	2,530	633	484	251	81	76
4	36	221	236	807	531	807	2,340	746	418	221	251	106
5	46	193	207	807	356	688	1,890	556	581	116	210	95
6	116	193	180	688	337	556	1,890	1,110	1,000	96	119	74
7	207	180	180	581	508	581	2,160	2,250	950	90	74	51
8	102	193	267	556	1,170	1,340	1,890	1,810	3,250	80	60	43
9	72	168	267	484	856	1,130	1,650	1,650	2,040	75	62	41
10	55	1,180	145	439	508	870	1,490	1,490	1,200	70	64	41
11	48	1,040	125	396	440	633	1,410	1,270	935	66	66	38
12	46	607	115	396	420	746	3,210	1,060	746	62	62	36
13	44	396	110	145	420	824	2,730	1,000	607	59	62	34
14	47	300	105	120	440	3,450	2,160	1,130	508	57	58	42
15	44	251	100	110	460	4,720	1,610	870	439	55	52	198
16	43	236	97	110	440	3,410	1,650	935	376	75	48	168
17	44	468	95	130	420	2,630	1,980	1,970	337	93	43	95
18	53	531	95	200	420	1,980	1,980	1,270	267	88	40	62
19	58	1,440	95	360	440	1,980	1,890	1,000	207	74	37	51
20	55	2,260	98	688	633	2,530	1,650	746	207	62	39	55
21	53	1,410	106	531	746	4,240	1,270	870	193	54	35	57
22	46	1,000	125	807	484	4,040	1,130	688	180	48	33	62
23	51	746	200	1,410	807	2,950	1,000	607	168	54	35	81
24	49	581	1,420	1,060	688	2,160	870	607	145	64	43	92
25	50	508	1,570	870	1,050	1,730	807	1,000	135	64	58	81
26	52	418	1,200	870	2,360	1,490	746	870	125	63	68	70
27	108	340	870	935	1,650	1,200	688	1,000	116	61	52	62
28	207	280	888	807	1,410	1,340	556	1,060	116	59	43	57
29	116	250	607	633		1,060	508	1,130	108	57	42	56
30	90	240	531	556		1,060	462	1,000	94	51	35	52
31	74		935	531		1,410		746		48	36	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					207	36	68.8	0.143		0.16		
November.....					2,260	158	551	1.15		1.28		
December.....					1,570	95	371	.771		.89		
January.....					1,410	110	596	1.24		1.43		
February.....					2,360	337	708	1.47		1.53		
March.....					4,720	556	1,770	3.68		4.24		
April.....					3,210	462	1,640	3.41		3.81		
May.....					2,250	396	1,020	2.12		2.44		
June.....					3,250	94	569	1.18		1.32		
July.....					251	48	82.3	.171		.20		
August.....					251	33	65.4	.136		.16		
September.....					198	37	68.4	.142		.16		
The year .....					4,720	33	623	1.30		17.62		



Tionesta Creek at Nebraska, Pa.  
(Continued)

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	62	770	3,460	600	168	1,020	444	95	42	50	40
2	44	62	652	4,230	500	170	1,020	424	89	40	40	37
3	44	58	542	2,360	400	350	1,020	400	81	39	111	35
4	42	53	969	1,840	340	8,000	2,840	385	74	68	70	33
5	42	68	950	1,400	300	6,060	2,250	362	74	60	60	33
6	44	74	770	900	280	2,040	1,840	381	86	62	43	32
7	43	99	681	1,400	270	1,650	1,840	352	84	60	39	32
8	44	100	596	2,250	260	1,160	1,470	320	70	100	35	33
9	52	122	516	1,500	250	890	1,310	285	64	92	43	33
10	62	113	485	1,100	240	1,220	1,090	281	66	58	45	33
11	62	100	400	850	230	3,610	2,730	302	89	48	42	40
12	54	122	334	350	225	4,410	4,380	205	70	51	47	37
13	48	230	300	450	220	3,420	2,590	243	66	51	51	37
14	45	495	350	530	215	2,170	2,250	255	66	48	72	51
15	43	325	490	440	210	890	1,840	268	62	44	64	54
16	43	194	1,760	380	205	710	1,650	247	55	40	64	125
17	54	239	2,260	340	200	740	1,560	218	52	36	64	725
18	55	281	1,700	300	195	770	1,310	206	55	34	58	300
19	92	239	1,200	340	190	770	1,160	194	113	33	50	100
20	98	255	2,470	300	185	770	1,090	179	168	32	44	70
21	36	264	2,830	290	182	710	1,020	175	95	32	40	58
22	78	919	1,940	270	179	1,090	890	164	68	33	38	51
23	100	1,090	1,400	450	176	710	890	157	64	31	43	68
24	119	740	1,000	750	173	710	830	150	57	30	45	161
25	119	569	1,100	750	170	681	740	157	52	23	50	81
26	109	516	850	700	169	652	652	150	45	28	42	62
27	103	770	600	650	168	1,290	652	136	54	30	40	55
28	84	681	380	900	167	1,960	596	126	55	32	44	55
29	74	569	320	1,100		1,160	542	113	52	32	50	274
30	66	596	400	900		1,020	485	106	50	40	51	626
31	62		600	700		950		103		74	44	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October.....	119	42	66.4	0.138	0.16
November.....	1,090	58	331	.668	.77
December.....	2,830	300	955	1.99	2.29
January.....	4,290	270	1,049	2.18	2.51
February.....	600	167	246	.511	.53
March.....	8,000	168	1,642	3.41	3.93
April.....	4,360	485	1,452	3.02	3.37
May.....	444	103	244	.507	.58
June.....	168	45	72.4	.151	.17
July.....	100	28	46.1	.096	.11
August.....	111	35	50.9	.106	.12
September.....	725	32	112	.233	.26

Oil Creek at Rouseville, Pa.

Location.- Chain gage at highway bridge 1 mile above Rouseville, Venango County, and 1 1/2 miles above former gaging station.

Drainage area.- 300 square miles.

Records available.- June 1932 to September 1934.

Records available.- June 1932 to September 1934.  
Extremes.- Maximum discharge during year, about 7,320 second-feet Jan. 1 (gage height, 8.2 feet, from graph based on gage readings); minimum, 22 second-feet July 29, Sept. 5, 7 (gage height, 1.76 feet).

Sept. 5, 7 (page height, 1.76 feet).  
1932-34: Maximum discharge, that of Jan. 1, 1934; minimum, that of July 29, Sept. 5, 7, 1934.

Remarks.- Records fair except those for high stages and those estimated for periods of ice effect, Dec. 12-15, Feb. 4 to Mar. 3, Mar. 11, 12, which are poor. Records include discharge of Cherrytree Run. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	50	660	4,610	535	165	765	213	66	48	27	29
2	44	49	395	4,490	395	175	765	210	62	42	25	27
3	42	49	420	1,390	297	200	660	203	58	40	115	25
4	40	48	862	838	270	2,720	2,240	187	64	66	61	24
5	44	49	730	695	255	4,010	1,560	172	242	55	42	23
6	42	58	505	800	240	3,520	1,070	194	118	64	32	23
7	41	62	395	912	230	1,410	950	181	78	61	27	23
8	40	72	314	1,240	225	875	730	155	62	54	27	24
9	40	76	276	838	220	565	595	142	61	49	44	32
10	40	90	150	695	215	395	505	140	74	42	54	29
11	39	74	184	535	210	310	1,600	144	66	39	40	25
12	37	87	165	395	205	270	1,840	130	60	48	36	26
13	36	173	150	420	200	346	1,070	127	58	41	33	34
14	35	420	140	448	195	780	950	140	56	42	41	46
15	34	276	170	370	190	602	950	147	52	41	35	37
16	35	249	1,440	319	185	628	875	134	50	39	39	39
17	46	264	1,110	284	180	595	765	124	49	29	44	55
18	50	241	990	245	178	875	595	113	50	27	41	50
19	71	230	595	302	176	475	535	113	132	25	34	40
20	67	224	570	249	174	505	448	104	109	28	30	33
21	58	329	2,480	245	172	568	395	98	71	30	27	29
22	64	2,050	1,260	234	170	1,150	370	92	55	30	27	27
23	83	2,020	765	505	168	402	346	92	76	33	39	29
24	69	875	628	628	166	420	370	87	55	29	35	28
25	85	535	765	505	165	302	346	98	49	24	35	28
26	96	535	505	595	164	323	319	92	44	23	33	28
27	76	1,080	348	420	163	1,000	302	81	58	24	29	30
28	66	628	297	742	163	1,180	276	78	147	27	33	36
29	56	505	293	1,370		730	253	74	74	23	44	74
30	54	660	241	595		620	227	74	60	35	40	81
31	50		469	535		628		67		29	34	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					96	34	52.5	0.175		0.20		
November.....					2,050	48	402	1.34		1.50		
December.....					2,480	140	589	1.96		2.26		
January.....					4,610	234	853	2.84		3.27		
February.....					535	163	218	.727		.76		
March.....					4,010	165	868	2.89		3.33		
April.....					2,240	227	756	2.52		2.81		
May.....					213	67	129	.430		.50		
June.....					242	44	75.2	.251		.28		
July.....					66	23	38.3	.128		.15		
August.....					115	25	38.8	.129		.15		
September.....					81	23	34.5	.115		.13		
The year.....					4,610	23	339	1.13		15.34		



French Creek at Carters Corners, Pa.

Location.- Chain gage at highway bridge at Carters Corners, (formerly called Kimmeytown) Erie County, 4 miles northwest of Union City, and 5 miles upstream from mouth of South Branch of French Creek. Zero of gage is 1,235.7 feet above mean sea level.

Drainage area.- 208 square miles.

Records available.- October 1919 to September 1920; October 1932 to September 1934 in reports of U. S. Geological Survey; May 1910 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 18 years (1910-16, 1919-29, 1932-34), 418 second-feet.

Extremes.- Maximum discharge recorded during year, 5,570 second-feet Jan. 1 (gage height, 8.70 feet); minimum, 6.3 second-feet Aug. 1 (gage height, 0.44 foot). 1910-34: Maximum discharge (estimated), 9,940 second-feet Mar. 25, 1913; maximum gage height, about 15.2 feet Mar. 12, 1920 (caused by ice jam); minimum discharge not determined. Estimated for periods of ice effect, Dec. 13-15.

Remarks.- Records fair except those estimated for periods of ice effect, Dec. 13-15, Feb. 6 to Mar. 3, and Mar. 11-13, which may be poor.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	55	1,100	4,500	456	122	476	143	32	17	8.0	13
2	38	51	658	3,320	366	135	476	129	33	14	7.2	17
3	33	50	476	1,220	283	500	456	111	33	15	14	14
4	29	51	901	700	253	3,210	949	104	30	14	13	15
5	29	50	334	535	238	4,260	334	96	27	13	14	13
6	31	55	575	700	220	3,160	535	87	25	17	12	9.4
7	29	63	438	788	210	2,220	456	81	24	17	13	8.4
8	32	129	348	788	197	788	366	72	22	18	11	11
9	29	155	268	616	190	495	299	68	24	17	14	11
10	23	133	224	495	133	401	268	66	24	16	14	12
11	30	196	210	366	175	370	671	63	23	14	15	12
12	32	224	183	283	170	360	1,140	59	21	13	12	9.4
13	32	310	180	299	165	400	834	56	28	21	11	10
14	29	535	180	283	160	700	700	79	26	21	11	9.4
15	29	419	220	283	155	575	700	83	23	14	11	13
16	28	331	1,110	238	150	495	658	68	28	14	12	21
17	29	333	880	224	145	658	535	59	24	14	14	22
18	44	348	744	268	140	1,080	419	55	23	12	14	20
19	196	366	401	253	137	700	315	56	46	10	16	17
20	140	419	542	268	134	575	253	47	38	12	16	14
21	87	468	1,490	210	131	535	224	47	32	13	13	13
22	74	2,700	1,140	210	128	616	210	41	26	14	10	12
23	83	3,000	700	769	126	348	268	45	21	11	8.8	14
24	83	1,280	788	788	124	283	332	44	21	8.8	14	13
25	160	788	880	700	122	210	332	53	18	7.2	14	14
26	133	1,100	575	744	120	196	283	45	17	8.0	13	13
27	134	1,460	268	535	119	462	258	41	19	14	16	14
28	96	880	348	1,190	118	535	210	41	20	13	18	16
29	79	941	332	1,030		495	196	36	17	8.0	18	17
30	75	1,530	383	700		456	162	33	16	9.4	16	17
31	59		494	575		456		31		11	16	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					196	28	66.1	0.313	0.36			
November.....					3,000	50	617	2.97	3.31			
December.....					1,490	180	576	2.77	3.19			
January.....					4,500	210	786	3.78	4.36			
February.....					466	118	183	.880	.92			
March.....					4,260	196	826	3.97	4.68			
April.....					1,140	162	460	2.21	2.47			
May.....					143	31	65.7	.316	.36			
June.....					46	16	25.3	.122	.14			
July.....					21	7.2	13.6	.065	.07			
August.....					13	7.2	13.2	.063	.07			
September.....					22	8.4	13.8	.066	.07			
The year.....					4,500	7.2	305	1.47	19.90			

French Creek at Saegertown, Pa.

Location.- Chain gage at highway bridge at Saegertown, Crawford County, half a mile above mouth of Woodcock Creek.

Drainage area.- 629 square miles.

Drainage area.- 629 square miles.  
Records available.- April to September 1921; October 1931 to September 1934 in reports of U. S. Geological Survey; April 1921 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 13 years (1921-34), 1,037 second-feet.

Average discharge.-- 13 years (1921-34), 1,037 second-feet.  
Extremes.-- Maximum discharge during year, 11,100 second-feet Jan. 3 (gage height, 12.0 feet from graph based on gage readings); minimum, 24 second-feet Aug. 25, 26 (gage height, 2.12 feet).

1921-34: Maximum discharge, about 17,000 second-feet Jan. 20, 1929 (gage height, 15.9 feet from graph based on gage readings); minimum, that of Aug. 25, 1934.

Remarks.- Records good except those for low stages, which are fair, and those estimated for periods of ice effect, Jan. 31 to Mar. 3, which may be poor. Regulation at low stages from small power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	144	3,020	5,800	950	257	1,310	455	100	62	32	43
2	130	130	1,910	8,870	750	260	1,390	403	86	58	34	38
3	116	116	1,310	8,660	600	1,000	1,310	370	89	56	45	32
4	116	126	2,090	2,930	500	4,520	2,600	327	89	52	52	28
5	100	126	2,390	1,730	450	8,070	2,910	316	81	67	54	27
6	103	141	1,730	1,910	420	9,320	2,000	286	81	60	48	28
7	103	148	1,310	2,090	400	7,070	1,550	276	76	78	45	29
8	92	175	1,080	2,590	380	3,740	1,230	256	73	73	78	38
9	95	228	870	2,090	360	1,910	1,010	228	76	69	56	30
10	97	322	668	1,640	340	1,230	836	219	78	67	50	28
11	92	353	546	1,310	330	870	1,200	223	78	60	38	28
12	78	364	432	940	320	768	2,490	201	78	56	36	28
13	84	572	450	870	310	870	2,390	184	76	56	36	28
14	84	1,010	491	905	300	1,730	2,090	210	81	54	39	27
15	78	993	668	870	290	1,910	2,190	238	73	52	33	32
16	78	590	3,040	801	285	1,640	1,920	247	69	48	36	38
17	86	668	3,350	603	230	1,730	1,550	210	69	45	30	41
18	71	801	2,590	590	277	2,290	1,310	138	73	38	34	47
19	110	870	2,000	668	274	2,090	1,010	175	95	41	29	52
20	242	940	1,360	636	271	1,730	836	160	107	43	36	45
21	238	1,140	4,190	603	268	1,550	701	150	120	36	33	45
22	197	4,220	4,190	636	266	2,190	636	132	107	41	32	41
23	171	5,910	2,490	1,530	264	1,390	668	152	100	34	33	41
24	175	5,910	1,910	2,290	262	940	836	141	78	34	30	38
25	197	3,100	1,910	1,920	260	734	870	141	73	34	28	39
26	291	2,290	1,920	1,910	258	701	801	152	67	29	24	36
27	311	3,240	1,010	1,470	257	1,080	701	130	60	27	29	36
28	242	2,300	701	1,900	256	1,730	668	130	137	32	36	34
29	188	2,000	801	2,690		1,390	559	130	107	32	36	35
30	171	2,490	801	1,500		1,230	497	116	84	30	41	36
31	156		1,100	1,200		1,310		107		28	41	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					311	71	143	0.227		0.28		
November.....					5,910	116	1,397	2.22		2.48		
December.....					4,190	432	1,701	2.70		3.11		
January.....					8,870	590	2,063	3.28		3.78		
February.....					950	256	364	.579		.60		
March.....					9,320	257	2,169	3.45		3.98		
April.....					2,910	497	1,329	2.11		2.55		
May.....					455	107	216	.343		.40		
June.....					137	60	85.4	.136		.15		
July.....					78	27	48.1	.076		.09		
August.....					78	24	38.8	.062		.07		
September.....					52	27	35.8	.057		.06		
The year.....					9,320	24	804	1.28		17.33		







## Sugar Creek at Sugarcreek, Pa.

Location.- Chain gage at highway bridge three quarters of a mile north of Sugarcreek, Venango County, and three quarters of a mile above mouth.  
 Drainage area.- 166 square miles (revised).  
 Records available.- August 1932 to September 1934.  
 Extremes.- Maximum discharge recorded during year ending Sept. 30, 1933, about 2,900 second-feet Mar. 14 (gage height, 5.96 feet); minimum, 11 second-feet Sept. 13 (gage height, 1.36 feet).  
 Maximum discharge recorded during year ending Sept. 30, 1934, about 2,950 second-feet Jan. 1 (gage height, 6.03 feet); minimum, 10 second-feet Sept. 13, 14 (gage height, 1.33 feet).  
 1932-34: Maximum and minimum stages and discharges occurred during year ending Sept. 30, 1934.  
 Remarks.- Records fair. Discharge estimated for periods of ice effect, Nov. 28 to Dec. 1, Dec. 11-23, 1932, Jan. 1-3, 14, Feb. 10-15, Dec. 11, 12, 1933, Jan. 30 to Mar. 3, 1934. Probably some regulation due to operation of mills upstream.

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	92	51	550	120	251	646	146	130	45	22	15
2	16	101	49	350	174	212	609	140	115	55	25	16
3	24	75	48	250	140	186	633	202	106	80	28	27
4	18	63	69	199	110	180	544	165	110	52	58	37
5	26	63	67	240	92	154	428	146	412	43	30	50
6	56	69	66	192	97	128	418	157	205	41	25	25
7	45	64	80	180	118	128	476	202	190	41	22	22
8	27	59	115	157	442	445	433	192	1,160	41	22	20
9	19	67	101	146	256	407	372	222	407	39	29	18
10	22	247	73	132	160	291	326	215	274	34	25	16
11	22	159	58	118	120	199	343	189	212	34	25	21
12	28	143	49	118	105	205	1,010	180	157	30	25	16
13	24	108	42	86	98	322	615	159	140	28	22	15
14	24	97	36	80	105	1,850	466	171	130	30	20	30
15	23	86	32	77	125	1,440	382	151	115	30	20	52
16	28	90	31	84	138	1,020	521	159	110	31	17	28
17	24	148	30	92	122	544	504	208	103	49	19	23
18	30	162	29	88	120	402	454	165	92	32	19	21
19	27	776	30	162	130	504	471	143	90	32	17	19
20	23	390	32	168	222	532	627	135	84	27	17	39
21	19	262	35	130	225	804	510	135	77	27	17	34
22	19	192	42	195	189	609	372	120	77	29	14	50
23	27	159	51	266	192	466	358	108	63	25	15	48
24	25	151	512	180	165	358	258	189	59	59	23	34
25	20	146	339	159	669	321	240	186	56	33	25	28
26	24	115	202	180	612	299	215	363	56	31	19	28
27	111	82	162	180	532	240	195	240	53	27	16	34
28	61	69	120	100	363	287	180	240	50	25	17	28
29	46	61	160	148	287	159	159	195	48	24	16	30
30	25	55	908	122	488	154	159	159	48	24	14	24
31	38	901	115	115	597	143	143	143	143	24	15	15
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	111		16		30.4		0.183		0.21			
November	776		59		145		.873		.97			
December	908		29		146		.880		1.01			
January	550		77		172		1.04		1.20			
February	669		92		211		1.27		1.32			
March	1,850		128		457		2.75		3.17			
April	1,010		154		431		2.60		2.90			
May	363		108		178		1.07		1.23			
June	1,160		48		164		.988		1.10			
July	80		24		36.2		.218		.25			
August	58		14		21.9		.132		.15			
September	52		15		28.3		.170		.19			
The year	1,850		14		168		1.01		13.70			

Sugar Creek at Sugarcreek, Pa.  
(Continued)

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	20	154	2,160	160	67	344	108	37	24	17	14
2	28	24	132	1,210	130	68	330	99	33	22	22	14
3	24	24	135	621	115	700	303	95	33	20	143	14
4	23	22	278	428	107	1,390	1,300	88	34	24	33	13
5	24	28	212	387	100	1,230	791	84	158	25	22	12
6	24	36	177	397	95	862	544	88	53	30	19	12
7	24	38	151	573	91	471	444	80	44	25	17	13
8	23	33	135	615	88	316	344	75	40	27	17	12
9	23	39	128	459	86	278	274	71	40	22	32	17
10	23	41	88	372	84	183	244	69	55	20	31	17
11	21	50	81	312	82	195	1,350	71	56	20	27	13
12	19	53	79	232	80	189	591	66	41	20	20	13
13	21	135	77	225	79	151	439	59	36	25	22	12
14	16	192	80	240	78	308	387	61	36	25	29	13
15	21	97	117	212	76	229	413	69	33	24	24	13
16	23	90	439	192	75	215	392	63	31	21	25	18
17	23	80	270	168	74	215	316	59	29	17	29	23
18	23	101	295	168	73	237	262	56	31	16	24	16
19	30	120	212	162	72	255	215	48	77	17	19	15
20	27	125	840	148	71	218	199	53	43	25	20	14
21	19	162	1,080	151	71	236	183	50	38	24	17	13
22	31	778	621	135	70	382	165	50	31	17	17	13
23	45	460	407	348	70	236	168	48	31	18	19	13
24	32	282	278	255	69	208	165	45	29	16	24	16
25	33	222	287	225	69	100	159	53	25	14	26	14
26	38	192	183	225	68	189	140	48	24	14	19	15
27	31	240	186	186	68	997	143	43	53	19	19	16
28	29	192	174	493	67	680	138	43	44	16	19	16
29	28	192	174	334	372	122	43	27	14	20	43	43
30	28	199	174	260	326	112	39	25	16	16	16	40
31	21	305	200	200	316	112	38	27	17	17	17	17
Month	Maximum		Minimum		Mean		Per square mile		Run-off in inches			
October	45		16		25.8		0.155		0.18			
November	778		20		142		.855		.95			
December	1,080		77		256		1.54		1.78			
January	2,160		135		389		2.34		2.70			
February	160		67		84.6		.510		.53			
March	1,390		67		385		2.82		2.68			
April	1,350		112		366		2.20		2.46			
May	108		38		63.3		.381		.44			
June	158		24		42.2		.254		.28			
July	30		14		20.8		.125		.14			
August	148		16		26.1		.157		.18			
September	43		12		16.2		.098		.10			
The year	2,160		12		152		.916		12.42			



## Clarion River near Piney, Pa.

Location.- At hydroelectric plant of the Clarion River Power Co. 2½ miles upstream from Piney, Clarion County, and 3 miles southwest of Clarion.  
 Drainage area.- 951 square miles.  
 Records available.- October 1933 to September 1934 in reports of U. S. Geological Survey; October 1924 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
 Average discharge.- 10 years (1924-34), 1,499 second-feet.  
 Remarks.- Discharge computed from power-house records corrected for changes in storage. Records furnished by the Clarion River Power Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	261	62	564	3,820	1,650	1,580	1,200	875	295	52	29	65
2	1,490	62	1,240	5,760	1,570	631	3,040	760	455	62	43	180
3	1,520	62	62	4,000	1,350	2,230	2,740	591	138	218	675	29
4	1,430	62	1,550	3,380	317	2,360	4,450	722	62	237	185	29
5	1,480	62	1,130	2,780	1,120	2,570	6,130	1,000	202	52	29	29
6	62	62	894	3,050	1,010	3,380	5,070	271	62	52	29	29
7	62	62	801	2,640	765	3,420	5,190	528	304	344	295	308
8	62	62	1,190	5,140	702	2,970	3,140	574	52	52	29	29
9	62	62	1,130	4,080	575	2,070	2,980	583	392	686	297	29
10	62	62	62	3,690	678	682	3,140	636	200	741	109	29
11	62	62	341	3,150	62	62	3,620	832	137	629	94	29
12	62	62	62	2,840	873	760	6,080	1,790	218	685	29	29
13	62	62	329	2,600	284	1,270	6,430	163	99	663	322	29
14	335	62	242	677	573	1,900	5,680	432	168	67	372	313
15	62	62	1,040	1,780	570	2,130	3,620	463	52	44	254	29
16	243	62	1,500	1,200	663	1,850	3,210	579	536	659	351	118
17	62	62	368	1,240	492	1,780	2,960	592	137	732	358	357
18	62	62	2,730	771	62	788	2,500	500	52	930	264	542
19	62	62	2,810	955	384	1,700	2,460	627	416	922	168	298
20	62	62	1,870	1,430	542	1,520	2,860	156	367	651	135	337
21	315	62	3,890	333	211	1,630	1,540	450	368	611	29	195
22	62	62	3,880	888	62	1,620	424	510	432	29	131	47
23	62	1,020	3,540	1,160	297	1,540	1,720	520	196	29	29	29
24	62	1,520	2,070	937	514	1,070	1,540	482	52	29	426	139
25	62	620	2,670	1,440	62	503	1,270	537	70	29	83	333
26	62	711	2,610	1,620	313	1,630	1,200	440	252	29	29	248
27	62	266	1,830	886	116	2,560	1,430	157	52	110	29	153
28	62	1,400	1,590	851	671	7,090	712	534	52	29	128	318
29	62	1,400	1,430	2,960		4,560	273	486	138	29	81	447
30	62	62	1,360	1,110		4,230	767	62	495	29	29	29
31	62		644	1,400		3,860		303		29	376	
Month	Observed			Storage		Corrected for storage						
	Maximum	Minimum	Mean	(Mean)		Mean	Per square mile	Run-off in inches				
October.....	1,520	62	274	- 150	124	0.130	0.15	0.15				
November.....	1,520	62	279	+ 166	445	.468	.52	.52				
December.....	3,890	62	1,465	- 13	1,452	1.53	1.76	1.76				
January.....	5,760	333	2,211	+ 14	2,225	2.34	2.70	2.70				
February.....	1,650	62	589	+ 1	590	.620	.65	.65				
March.....	7,090	62	2,127	- 77	2,050	2.16	2.49	2.49				
April.....	6,430	273	2,913	+ 63	2,976	3.13	3.49	3.49				
May.....	1,790	62	553	+ 1	554	.593	.67	.67				
June.....	536	52	215	- 9	206	.217	.24	.24				
July.....	930	29	304	- 186	119	.125	.14	.14				
August.....	675	29	175	- 8	167	.176	.20	.20				
September.....	542	29	159	+ 28	187	.197	.22	.22				
The year.....	7,090	29	942	- 15	927	.975	18.23					

## Redbank Creek at St. Charles, Pa.

Location.- Chain gage at industrial railroad bridge at St. Charles, Clarion County.  
 Zero of gage is 976.24 feet above mean sea level.  
 Drainage area.- 528 square miles.  
 Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; October 1909 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
 Average discharge.- 21 years (1910-14, 1915-16, 1918-34), 877 second-feet.  
 Extremes.- Maximum discharge during year, 5,060 second-feet Dec. 21 (gage height, 5.85 feet, from graph based on gage readings); minimum, 30 second-feet July 30 (gage height, 0.86 foot).  
 1909-34: Maximum discharge, about 21,000 second-feet Dec. 14, 1927; maximum gage height, 14.0 feet Mar. 12, 1920 (affected by ice); minimum discharge, 10 second-feet Aug. 9, 1910 (gage height, 0.71 foot).  
 Remarks.- Records fair except those estimated for periods of ice effect, Dec. 12-16, 29-31, Jan. 31 to Mar. 3, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	59	202	1,870	410	140	1,270	258	94	108	59	74
2	49	52	182	2,190	330	200	1,270	227	90	96	81	68
3	49	52	157	1,590	290	2,000	1,170	227	81	90	148	56
4	46	52	248	1,120	260	2,730	2,220	216	77	101	173	49
5	49	52	382	1,120	230	2,320	2,590	213	70	81	126	46
6	46	72	337	936	210	1,940	1,940	210	68	87	92	49
7	40	81	279	2,260	200	1,220	1,700	202	77	103	66	46
8	46	81	239	3,640	190	810	1,370	186	70	98	50	40
9	46	94	210	2,590	180	522	1,220	166	57	115	75	38
10	49	96	121	1,940	170	434	980	186	62	128	62	43
11	50	92	113	1,420	160	407	1,780	360	124	94	62	46
12	61	113	145	1,070	155	351	3,170	351	128	87	126	49
13	56	163	142	852	150	434	2,450	258	118	83	216	54
14	49	342	140	852	145	770	1,320	239	131	294	682	61
15	49	296	144	770	140	657	1,700	239	154	202	330	49
16	43	153	180	554	140	622	1,320	231	105	108	216	79
17	52	246	1,040	492	145	657	1,120	220	85	81	173	123
18	49	254	2,000	351	155	731	980	206	77	62	157	192
19	52	246	1,540	407	150	522	810	179	238	56	118	170
20	61	231	1,370	356	141	622	731	160	462	56	96	123
21	64	262	4,020	318	138	587	657	146	382	50	79	96
22	66	337	2,590	382	135	522	554	146	275	42	56	90
23	70	522	1,320	554	133	407	522	140	382	43	68	81
24	66	407	1,370	554	131	434	522	140	434	40	103	79
25	66	305	1,220	554	129	382	492	140	347	38	189	70
26	70	258	1,070	522	128	492	407	126	246	50	176	70
27	66	262	554	314	128	2,370	382	123	250	34	137	74
28	66	254	382	653	130	3,350	342	113	166	35	108	74
29	61	254	350	1,590		1,320	314	108	131	35	94	282
30	70	235	320	762		1,320	288	103	121	31	90	522
31	62		400	500		1,170		98		49	81	
Month		Maximum	Minimum	Mean	Per square mile	Run-off in inches						
October.....		70	40	55.8	0.106	0.12						
November.....		522	52	197	.373	.42						
December.....		4,020	113	751	1.42	1.64						
January.....		3,640	314	1,067	2.02	2.33						
February.....		410	128	179	.339	.35						
March.....		3,350	140	998	1.89	2.18						
April.....		3,170	238	1,203	2.28	2.54						
May.....		360	98	191	.362	.42						
June.....		462	57	170	.322	.36						
July.....		294	31	83.1	.157	.18						
August.....		682	50	138	.261	.30						
September.....		522	38	96.4	.183	.20						
The year.....		4,020	31	430	.814	11.04						



Location.- Chain gage at Independence Bridge, 1 3/4 miles northeast of Dayton, Armstrong County.

Drainage area.- 321 square miles.

Records available.- October 1920 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1916 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 14 years (1920-34), 547 second-feet.

Extremes.- Maximum discharge during year, 4,140 second-feet Dec. 19 (gage height, 5.90 feet from graph based upon gage readings); minimum, 30 second-feet Sept. 11 (gage height, 1.66 feet).

1916-34: Maximum gage height (estimated), 9.6 feet Feb. 20, 1918 (discharge not determined); minimum discharge, 8.0 second-feet Oct. 17, 1928 (gage height, 1.40 feet).

Remarks.- Records good except those estimated for periods of ice effect Dec. 11-16, 29-31, Jan. 30 to Mar. 3, which are poor. Slight regulation at low stages from small power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	51	161	1,630	200	95	674	202	65	96	175	53
2	65	51	139	1,750	180	150	674	191	57	96	120	46
3	55	53	146	1,560	160	1,200	638	183	49	126	85	46
4	55	55	183	674	150	1,990	896	163	82	168	60	42
5	60	69	227	601	140	1,630	1,260	175	67	139	51	38
6	74	32	257	794	135	1,520	1,110	171	51	117	46	35
7	51	96	236	836	130	1,060	970	161	51	126	40	35
8	67	113	206	880	125	495	924	161	55	107	35	35
9	79	107	183	836	120	360	794	150	65	96	36	33
10	74	96	168	794	115	271	836	218	65	101	51	33
11	69	96	158	753	112	231	1,020	276	171	87	209	32
12	60	101	150	674	109	192	1,110	236	330	79	248	42
13	55	366	145	601	106	175	1,110	214	226	88	175	53
14	47	674	140	574	103	210	1,020	198	133	214	139	67
15	46	520	145	533	100	198	880	214	96	153	107	87
16	46	388	175	495	100	206	714	198	87	113	113	314
17	51	319	366	457	101	103	638	185	285	77	107	924
18	46	266	1,040	404	104	168	527	183	1,720	60	101	714
19	47	257	2,820	366	100	191	482	191	1,650	53	82	574
20	65	223	2,930	340	97	210	434	191	654	62	67	422
21	55	304	1,630	340	94	253	399	214	324	51	53	304
22	55	335	1,310	330	92	257	366	236	236	47	46	183
23	62	304	1,160	330	90	266	345	191	231	40	36	139
24	69	276	970	360	88	276	324	171	214	36	38	113
25	74	244	794	377	86	257	285	161	240	33	67	90
26	69	214	587	330	84	350	262	146	248	33	87	74
27	65	231	451	314	82	928	248	126	198	36	77	69
28	60	202	388	372	80	1,260	223	113	157	44	77	133
29	55	179	365	428		1,110	210	101	123	60	74	404
30	51	168	350	310		924	206	85	107	65	67	1,270
31	47		450	230		753		72		164	62	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					79	46	59.3	0.185		0.21		
November.....					674	51	215	.670		.75		
December.....					2,930	139	595	1.85		2.13		
January.....					1,750	230	615	1.92		2.21		
February.....					200	80	114	.355		.37		
March.....					1,990	95	561	1.75		2.02		
April.....					1,260	206	653	2.03		2.26		
May.....					276	72	177	.551		.64		
June.....					1,720	49	269	.838		.94		
July.....					214	33	89.3	.278		.32		
August.....					248	35	88.1	.274		.32		
September.....					1,270	32	213	.664		.74		
The year.....					2,930	32	305	.950		12.91		

Crooked Creek near Ford City, Pa.

Location.- Chain gage at highway bridge,  $3\frac{1}{2}$  miles south of Ford City, Armstrong County, and 5 miles above confluence with Allegheny River. Chain gage at a site three quarters of a mile downstream used prior to July 31, 1933.

Drainage area.- 280 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; October 1909 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 23 years (1910-13, 1914-34), 438 second-feet.

Extremes.- Maximum discharge recorded during year, 3,960 second-feet Aug. 24 (gage height, 7.85 feet); maximum gage height, 15.5 feet Mar. 4 (from graph based on gage readings, affected by ice); minimum, 4.0 second-feet June 18 (gage height, 0.80 feet).

1909-34: Maximum discharge, about 16,500 second-feet June 29, 1924 (gage height, 13.1 feet from graph based on gage readings); maximum gage height, that of Mar. 4, 1934; minimum recorded discharge, 0.1 second-foot Sept. 11, 25, 26, 1932.

Remarks.- Records fair. Discharge estimated for periods of ice effect, Nov. 15-17, Dec. 13-15, 27-31, Jan. 30 to Mar. 16. Probably slight regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	17	56	1,920	390	40	480	81	35	17	80	109
2	50	16	47	1,140	310	70	400	73	30	19	60	88
3	38	17	37	605	250	1,000	360	72	24	21	76	84
4	29	14	66	560	210	3,500	905	67	22	17	138	77
5	25	19	226	560	180	2,000	1,410	65	20	18	88	68
6	29	36	206	500	150	1,500	905	57	18	32	64	64
7	28	80	169	1,550	125	1,000	2,160	51	17	26	57	59
8	23	74	137	2,240	100	800	1,540	52	9.6	28	50	58
9	23	62	110	1,340	85	600	850	37	14	27	142	59
10	17	53	85	800	74	450	560	42	9.0	40	152	59
11	21	45	74	560	66	350	750	72	22	41	1,720	51
12	14	50	70	400	58	300	960	80	18	43	1,540	43
13	10	100	64	341	55	260	750	69	12	43	605	48
14	9.7	213	60	341	52	240	605	56	19	74	400	440
15	8.4	160	80	286	49	240	560	56	15	63	308	700
16	7.7	130	2,000	226	47	250	440	72	10	50	1,020	380
17	9.7	120	2,320	184	45	276	400	73	7.5	38	1,140	960
18	9.7	145	2,480	100	43	342	308	52	4.5	27	605	520
19	34	166	1,550	128	41	342	260	50	276	25	291	324
20	24	166	960	78	40	380	208	39	208	27	276	233
21	19	178	3,010	123	39	308	196	31	88	24	162	173
22	17	160	1,480	123	38	276	173	64	56	23	100	152
23	25	148	750	105	37	208	173	360	56	21	142	113
24	19	123	269	125	36	152	173	152	67	22	1,960	103
25	15	95	1,410	123	36	152	142	104	43	21	2,740	103
26	20	74	905	110	36	184	120	84	32	18	1,020	87
27	17	78	750	95	35	360	120	62	30	14	440	90
28	19	78	500	123	35	1,480	109	54	26	10	380	83
29	22	70	300	500		850	91	48	25	53	246	260
30	19	64	280	800		605	85	40	19	59	173	2,320
31	21		400	500		480		41		74	113	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					62	7.7	22.1	0.079		0.09		
November.....					213	14	91.7	.328		.37		
December.....					3,010	37	673	2.40		2.77		
January.....					2,240	78	535	1.91		2.20		
February.....					390	35	95.1	.340		.35		
March.....					3,500	40	613	2.19		2.52		
April.....					2,160	85	533	1.90		2.12		
May.....					360	31	72.8	.260		.30		
June.....					276	4.5	41.1	.147		.16		
July.....					74	10	32.7	.117		.13		
August.....					2,740	50	519	1.85		2.13		
September.....					2,320	43	264	.943		1.05		
The year.....					3,500	4.5	293	1.05		14.19		



## Stony Creek at Johnstown, Pa.

**Location.**— Wire gage at Poplar Street Bridge at Johnstown, Cambria County, 1½ miles above confluence with Little Conemaugh River. Zero of gage is 1,154.0 feet above mean sea level. Chain gage at same site and datum used prior to July 24.

**Drainage area.**— 467 square miles.

**Records available.**— October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; July 1913 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**— 20 years (1914-34), 778 second-feet.

**Extremes.**— Maximum discharge during year, 7,580 second-feet Jan. 7 (gage height, 8.9 feet, from graph based on gage readings); minimum, 30 second-feet July 12 (gage height, 0.96 foot); minimum daily discharge, 35 second-feet July 11, 12.

1913-34: Maximum discharge, about 23,000 second-feet Mar. 29, 1924 (gage height, 16.9 feet, from graph based on gage readings); minimum (estimated), 5 second-feet Sept. 8, 1929; minimum daily discharge recorded, 13 second-feet Oct. 25, 1930.

**Remarks.**— Records good except those below 70 second-feet and those estimated for periods of ice effect, Dec. 9-15, Feb. 7 to Mar. 3, which are poor. Diurnal regulation at low stages. Water supply for Cambria Plant of the Bethlehem Steel Co. diverted from Quemahoning Reservoir not included in records except in part of monthly table. Record of monthly diversion furnished by Manufacturers Water Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	54	123	1,640	624	160	870	219	83	49	100	100
2	85	57	114	1,480	524	220	760	207	81	48	85	89
3	78	54	114	990	500	2,500	596	198	72	49	326	85
4	74	50	177	930	432	4,640	2,030	195	46	104	325	87
5	87	60	272	1,260	389	5,190	2,670	189	63	54	64	87
6	71	106	206	1,720	328	3,360	1,560	166	61	52	111	79
7	71	119	177	4,810	290	1,890	2,260	166	63	48	85	68
8	71	150	150	5,220	260	1,260	1,890	147	56	56	72	66
9	74	114	140	2,890	240	815	1,480	134	77	51	606	68
10	74	116	130	1,890	220	706	1,120	161	91	41	519	76
11	71	110	120	1,330	200	623	1,190	207	108	35	551	72
12	64	150	120	990	190	519	1,400	172	98	35	650	63
13	59	191	120	1,050	180	494	1,120	139	85	522	596	118
14	57	221	150	930	175	596	1,050	134	74	2,360	596	132
15	57	238	220	733	170	705	1,120	172	66	1,050	380	192
16	54	254	1,340	650	165	760	1,120	299	59	760	1,580	435
17	85	191	2,710	500	161	623	1,120	213	59	358	2,660	776
18	93	191	2,550	410	157	732	870	163	96	142	1,260	338
19	97	221	1,330	432	153	623	760	139	893	132	544	242
20	67	272	990	348	150	544	678	124	470	91	424	204
21	66	221	1,050	309	147	494	596	120	280	76	299	145
22	60	272	1,050	368	144	446	494	120	147	93	232	127
23	62	290	870	500	141	380	519	129	201	108	226	106
24	67	221	733	598	138	358	446	124	169	93	280	106
25	64	191	815	573	155	318	358	118	134	66	380	89
26	54	177	733	650	133	358	358	120	89	63	266	89
27	51	163	678	573	131	917	299	104	81	82	204	139
28	54	150	524	1,020	130	1,820	273	93	76	675	183	111
29	52	137	410	1,480		1,190	245	91	70	229	145	533
30	54	137	500	1,190		930	219	89	63	129	124	1,640
31	54		815	815		815		87		142	115	

Month	Observed			Diversion (Mean)	Corrected for diversion		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	97	51	68.5	31.9	100	0.214	0.25
November.....	290	50	163	27.3	190	.407	.45
December.....	2,710	114	627	44.8	672	1.44	1.66
January.....	5,220	309	1,235	68.9	1,304	2.79	3.22
February.....	624	130	236	59.4	295	.632	.66
March.....	5,190	160	1,129	87.0	1,216	2.60	3.00
April.....	2,670	219	982	80.9	1,063	2.28	2.54
May.....	299	87	153	81.8	235	.503	.58
June.....	893	46	134	58.8	193	.413	.46
July.....	2,360	35	251	16.3	287	.672	.66
August.....	2,660	64	451	14.6	456	.998	1.15
September.....	1,640	63	215	40.8	256	.548	.61
The year.....	5,220	35	473	51.0	524	1.12	15.24

## Kiskiminitas River at Avonmore, Pa.

**Location.**— Chain gage at highway bridge at Avonmore, Westmoreland County. Zero of gage is 805.64 feet above mean sea level.

**Drainage area.**— 1,723 square miles.

**Records available.**— June 1907 to September 1913, October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; May 1907 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**— 27 years (1907-34), 2,978 second-feet.

**Extremes.**— Maximum discharge recorded during year, 20,300 second-feet Sept. 30 (gage height, 14.90 feet); minimum, 294 second-feet July 27 (gage height, 2.82 feet).

1907-34: Maximum gage height (estimated), 30.8 feet Mar. 19, 1908 (discharge not determined); minimum discharge recorded, 60 second-feet Sept. 18-27, 1908 (gage height, 1.6 feet).

**Remarks.**— Records fair except those estimated for periods of ice effect, Dec. 12-15, 28-31, Jan. 30 to Mar. 4, which are poor. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	620	305	765	14,200	3,500	700	3,560	1,100	495	435	785	870
2	525	305	728	6,820	2,900	850	3,440	1,100	435	408	560	705
3	495	305	690	4,900	2,400	3,000	2,890	1,050	435	408	1,500	668
4	440	305	765	3,850	2,050	13,000	4,650	1,000	408	630	2,330	668
5	415	325	1,400	3,850	1,800	16,900	11,300	960	408	528	1,480	595
6	415	390	1,450	5,460	1,630	14,000	7,480	915	408	435	870	595
7	415	588	1,180	7,820	1,480	7,970	9,940	828	380	365	595	560
8	415	588	1,100	14,400	1,340	5,480	8,670	785	435	370	495	595
9	415	620	930	10,400	1,210	4,040	6,660	785	408	408	3,330	528
10	468	588	888	6,820	1,100	3,210	5,200	745	380	380	3,840	528
11	440	525	765	5,180	1,030	2,770	4,800	1,050	560	335	7,920	495
12	390	495	700	4,100	970	2,530	5,910	1,000	630	316	5,500	465
13	390	805	640	3,500	920	2,530	4,930	828	465	1,360	4,040	663
14	368	1,180	580	3,610	880	3,440	4,160	785	435	8,000	3,680	2,290
15	325	1,270	700	3,150	850	3,680	4,410	785	380	4,320	2,440	3,400
16	325	849	4,280	2,720	820	3,210	4,160	960	375	2,120	3,590	3,200
17	325	2,320	8,410	2,500	790	2,880	4,160	1,140	340	1,420	9,680	6,290
18	440	2,500	16,800	2,000	760	2,990	3,630	915	345	960	5,580	3,630
19	495	2,400	9,880	2,100	740	2,990	3,210	785	2,480	745	3,450	2,220
20	468	1,910	6,590	1,910	720	2,770	2,990	745	3,120	705	2,550	1,720
21	415	1,450	13,100	1,720	700	2,550	2,550	668	1,480	630	2,020	1,320
22	390	1,360	7,990	1,630	690	2,330	2,330	668	870	528	1,420	1,050
23	368	1,720	5,460	1,720	680	2,020	2,120	735	1,820	408	1,230	870
24	368	1,450	4,100	2,720	670	1,620	1,920	915	1,720	408	3,330	785
25	368	1,270	5,320	2,300	660	1,620	1,820	705	1,050	375	6,700	745
26	345	1,020	4,500	2,300	650	1,720	1,720	668	785	312	3,800	668
27	325	1,100	3,610	2,300	640	2,650	1,520	630	705	303	2,440	785
28	325	972	3,000	2,380	630	7,630	1,420	630	595	1,820	1,920	785
29	305	930	2,600	6,770	5,760	1,320	560	560	1,670	1,620	3,000	
30	305	845	2,500	6,000	4,410	1,140	528	528	785	1,230	17,000	
31	305		4,000	4,500	3,560				1,530	1,060		
Month	Maximum			Minimum			Mean			Run-off in inches		
October	620	305	400	0.232	0.27							
November	2,500	305	1,023	.594	.66							
December	16,900	580	3,723	2.16	2.49							
January	14,400	1,630	4,633	2.69	3.10							
February	3,500	630	1,188	.688	.72							
March	16,900	700	4,336	2.52	2.90							
April	11,300	1,140	4,155	2.40	2.68							
May	1,140	528	824	.478	.55							
June	3,120	340	781	.453	.51							
July	8,000	303	1,078	.626	.72							
August	9,680	495	2,935	1.70	1.96							
September	17,000	465	1,923	1.12	1.25							
The year	17,000	303	2,260	1.31	17.81							



## 119

Location.- Chain gage at highway bridge at Gratton one-fourth mile northwest of Blacklick, Indiana County.  
Drainage area.- 390 square miles.  
Records available.- August 1904 to September 1913, October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1904 to December 1905, January 1907 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
Average discharge.- 27 years (1907-34), 660 second-feet.  
Extremes.- Maximum discharge recorded during year, 9,400 second-feet Mar. 3 (gage height, 8.57 feet); minimum, 33 second-feet July 25 (gage height, 2.12 feet).  
1904-34: Maximum discharge recorded, about 21,000 second-feet Sept. 3, 1912 (gage height, 12.90 feet); minimum, 6 second-feet Sept. 12, 16-27, 1908 (gage height, 1.88 feet).  
Remarks. Records fair except those estimated for periods of ice effect Dec. 13, 14, 29-31, Feb. 9 to Mar. 3, and for days of missing gage-height record, Apr. 10-19, which are poor. Slight diurnal regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	53	153	1,790	861	140	861	198	82	91	115	190
2	143	60	135	1,610	670	200	734	136	82	91	88	154
3	102	58	132	1,130	430	3,000	593	173	67	99	692	146
4	96	49	306	861	430	5,040	1,590	169	62	115	400	135
5	173	49	455	1,330	394	3,100	1,920	158	65	93	202	115
6	85	112	348	1,250	342	2,490	1,440	154	56	85	132	109
7	85	154	290	2,500	311	1,300	2,840	143	60	80	99	96
8	74	139	251	2,940	246	995	1,920	132	77	99	77	99
9	128	118	228	1,980	210	693	1,380	125	69	88	533	109
10	96	112	146	1,630	190	593	1,100	135	106	72	273	91
11	88	91	165	1,040	181	528	1,180	173	139	60	1,950	82
12	74	194	146	775	175	449	1,300	158	96	56	1,040	74
13	72	233	135	734	169	474	1,100	135	85	93	775	150
14	65	497	210	818	164	775	1,000	128	72	228	506	1,160
15	54	320	554	631	159	557	1,100	146	62	106	365	1,000
16												
17	56	186	2,300	557	155	631	1,100	194	60	69	1,280	1,600
18	80	266	3,430	449	152	593	1,000	135	56	56	1,480	2,340
19	122	332	4,910	337	149	693	800	128	56	47	775	1,080
20	112	417	2,190	424	146	564	650	132	1,840	44	461	693
21	99	376	1,660	242	143	593	522	106	643	47	608	522
22												
23	74	353	3,770	295	140	528	522	106	256	58	337	382
24	74	442	2,190	388	138	494	461	109	202	45	251	311
25	72	461	1,380	461	136	365	455	274	697	44	290	256
26	74	311	1,040	523	134	285	405	190	417	45	2,050	246
27	74	266	1,920	508	132	348	342	158	246	35	2,150	202
28												
29	74	228	1,130	501	131	311	300	132	194	37	995	190
30	74	271	818	417	130	1,370	290	122	165	49	631	202
31	65	224	615	623	129	2,190	276	102	139	359	535	228
1	62	194	470	800		1,230	233	93	122	165	394	2,740
2	62	165	600	1,040		950	206	93	102	93	300	3,640
3	60		1,300	995		818		88		206	233	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October						173	54	87.0	0.223		0.26	
November						497	49	225	.577		.64	
December						4,910	132	1,093	2.80		3.23	
January						2,940	242	949	2.43		2.30	
February						861	129	241	.618		.64	
March						5,040	140	1,044	2.68		3.09	
April						2,840	206	921	2.36		2.63	
May						274	88	144	.369		.43	
June						1,840	56	212	.544		.61	
July						359	35	92.1	.236		.27	
August						2,150	77	648	1.66		1.81	
September						3,640	74	611	1.57		1.75	
The year						5,040	35	525	1.35		18.26	

## ALLEGHENY RIVER BASIN

Loyalhanna Creek at New Alexandria, Pa.

Location.- Chain gage at highway bridge at New Alexandria, Westmoreland County. Zero of gage is 917.26 feet above mean sea level.

Drainage area.- 265 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1913 to July 1923, November 1925 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 11 years (1919-22, 1926-34), 438 second-feet.

Extremes.- Maximum discharge recorded during year, 3,430 second-feet Aug. 16 (gage height, 6.78 feet); maximum gage height recorded, 8.07 feet Mar. 3 (affected by ice); minimum, 28 second-feet Oct. 16, Nov. 1, 2 (gage height, 1.80 feet).  
1913-23, 1925-34: Maximum discharge, about 10,400 second-feet Oct. 20, 1927 (gage height, 12.65 feet, from graph based on gage readings); minimum, 2.4 second-feet Oct. 3, 1927 (gage height, 1.46 feet).

Remarks.- Records fair. Discharge estimated for periods of ice effect, Dec. 12-15, 29, 30, Feb. 6 to Mar. 3. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	30	87	820	348	112	525	118	75	48	172	112
2	73	33	82	788	348	140	472	121	66	50	136	102
3	66	35	78	552	280	3,000	446	115	64	71	503	92
4	66	30	99	493	238	3,330	1,540	115	60	142	446	89
5	64	71	143	757	209	2,480	2,130	115	56	87	280	84
6	62	152	162	603	185	1,710	1,330	110	52	60	152	82
7	64	217	142	1,570	170	1,190	2,300	102	44	50	121	75
8	56	145	130	1,680	160	852	1,330	97	46	66	100	78
9	52	87	124	1,120	155	580	1,050	89	48	60	1,910	66
10	62	78	94	788	150	472	788	152	66	52	1,480	56
11	56	115	78	608	146	421	757	202	64	44	1,090	58
12	48	115	73	525	142	302	666	124	56	46	608	71
13	52	94	70	552	139	280	552	99	50	1,450	2,100	82
14	50	145	68	498	136	302	580	159	62	1,630	989	155
15	35	139	150	446	133	421	552	159	48	1,380	446	115
16	30	152	1,890	396	130	525	608	183	44	666	2,450	258
17	56	179	2,470	302	127	525	525	133	44	348	1,760	209
18	62	258	2,370	258	124	472	472	118	79	179	852	162
19	56	280	1,330	258	122	396	396	110	650	115	472	133
20	50	217	1,710	187	120	396	325	105	198	400	325	110
21	50	165	1,480	152	118	372	325	97	82	136	238	102
22	42	179	983	190	116	325	302	169	130	99	194	92
23	46	159	696	525	114	258	280	142	124	80	176	87
24	54	145	525	446	112	217	238	102	105	73	348	78
25	54	124	726	421	110	206	183	102	89	66	552	75
26	46	107	552	372	109	492	169	92	73	60	396	71
27	43	97	372	343	103	1,400	172	84	84	54	238	64
28	50	97	258	421	107	1,190	148	80	48	283	198	62
29	50	107	220	421		384	142	75	50	133	165	529
30	48	97	210	372		580	130	60	50	99	145	2,120
31	44		580	348		525		71		302	127	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					78	30	53.9	0.203		0.23		
November.....					280	30	128	.483		.54		
December.....					2,470	68	579	2.18		2.51		
January.....					1,680	152	556	2.10		2.42		
February.....					343	107	159	.600		.62		
March.....					3,330	112	786	2.97		3.42		
April.....					2,300	130	643	2.45		2.73		
May.....					202	60	116	.438		.50		
June.....					650	44	90.2	.340		.38		
July.....					1,630	44	269	1.02		1.18		
August.....					2,450	100	618	2.33		2.69		
September.....					2,120	56	182	.687		.77		
The year.....					3,330	30	351	1.32		17.99		



Monongahela River at Charleroi, Pa.

Location.— Water-stage recorder 1,100 feet upstream from dam at Lock 4, at Charleroi, Washington County. Zero of gage is 735.36 feet above mean sea level.

Washington County. Zero of ga  
Drainage area.- 5,213 square miles.

Drainage area.- 5,213 square miles.  
Records available.- March 1886 to March 1905, October 1933 to September 1934 in reports of U. S. Geological Survey; October 1933 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Extremes.—Maximum discharge during year (estimated), 116,000 second-feet Mar. 4 (gage height, 14.35 feet); minimum, 386 second-feet Sept. 16 (gage height, 2.26 feet); minimum daily discharge, 443 second-feet Sept. 16. Maximum discharge (estimated), 207,000 second-feet

1886-1905, 1933-34: Maximum discharge (estimated), 207,000 second-feet  
July 11, 1888 (gauge height, 42.0 feet on lower gauge at old lock downstream);  
minimum, not determined.

Remarks. - Records fair except those for high stages and those estimated for period of ice effect, Feb. 13 to Mar. 4, which are poor. Discharge estimated for days of recorder failure, Sept. 2, 3, 10-12. Regulation at low stages from operation of locks upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	1,210	3,810	11,700	7,120	1,000	11,300	4,850	1,400	846	1,510	1,040
2	1,270	1,140	5,120	24,800	6,910	1,800	9,020	4,560	1,580	1,140	1,170	719
3	1,480	1,270	3,450	23,500	5,950	6,000	7,990	4,180	1,250	993	1,480	620
4	1,600	1,280	2,790	19,100	3,280	70,000	18,700	3,420	883	970	1,820	560
5	1,600	916	5,290	17,000	3,370	100,000	27,100	3,030	842	903	1,690	521
6	1,380	1,820	8,270	21,100	4,490	69,200	17,300	2,770	1,160	1,220	1,720	508
7	1,380	2,490	8,660	36,300	3,720	39,800	17,000	2,540	1,120	744	2,020	482
8	1,170	3,010	9,600	69,300	3,380	24,000	10,700	2,540	829	590	1,600	469
9	1,080	4,670	8,280	40,700	2,700	18,700	8,190	2,180	916	508	1,380	456
10	988	4,200	4,520	24,000	1,820	16,100	8,780	2,100	1,120	523	1,120	482
11	988	2,230	4,220	16,600	1,530	13,000	8,190	2,050	829	880	744	469
12	812	2,300	4,630	13,000	1,360	9,710	13,900	2,450	959	1,170	744	793
13	812	2,820	4,850	9,350	1,260	10,200	16,000	3,070	1,140	3,000	655	665
14	812	3,820	4,630	5,840	1,190	14,700	16,100	2,860	1,290	7,370	825	495
15	812	4,490	4,060	6,020	1,120	22,700	13,800	3,680	1,290	3,170	1,330	469
16	812	4,910	4,550	7,240	1,020	17,200	10,700	3,620	1,720	1,430	1,990	443
17	988	3,670	21,600	6,640	1,060	13,500	12,400	5,560	1,080	1,550	7,680	514
18	1,210	3,630	63,900	6,160	990	10,600	11,100	5,860	1,100	1,420	6,610	2,920
19	1,190	5,750	37,800	6,020	960	10,200	9,230	5,710	2,160	1,120	7,330	1,740
20	1,900	8,980	22,700	4,630	940	11,800	8,860	2,860	1,920	952	3,240	1,360
21	1,440	9,720	30,600	3,200	920	9,320	6,990	2,800	2,390	635	2,330	1,040
22	1,180	6,800	29,700	3,140	900	8,740	4,600	2,770	2,100	508	1,970	829
23	1,100	7,570	18,000	4,560	890	9,620	4,720	2,330	1,720	469	1,600	916
24	1,170	9,040	13,800	5,740	880	6,380	4,850	2,210	1,290	482	1,440	581
25	1,080	6,540	9,450	7,400	870	4,140	3,920	2,300	1,190	710	1,380	495
26	806	3,820	7,320	7,900	860	5,350	3,660	2,360	1,920	680	1,670	547
27	502	2,950	8,600	7,830	850	16,500	3,890	1,760	1,890	534	2,530	560
28	646	4,630	8,370	7,470	840	45,000	5,260	1,890	1,630	1,180	2,610	590
29	1,120	5,520	7,400	7,590		40,800	5,670	2,020	988	2,140	1,940	912
30	1,310	4,640	5,780	8,190		24,900	4,760	1,920	778	1,720	1,640	5,130
31	1,230		5,390	7,520		16,800		1,210		1,890	1,550	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October						1,900	502	1,137	0.218		0.25	
November						9,720	916	4,215	.809		.90	
December						63,900	2,790	12,170	2.33		2.69	
January						69,300	3,140	14,230	2.73		3.15	
February						7,120	840	2,185	.419		.44	
March						100,000	1,000	21,520	4.13		4.76	
April						27,100	3,660	10,220	1.96		2.19	
May						5,860	1,210	3,015	.578		.67	
June						2,390	778	1,345	.258		.29	
July						7,370	469	1,337	.256		.30	
August						7,680	655	2,172	.417		.48	
September						5,130	443	911	.175		.20	
The year						100,000	443	6,260	1.20		16.32	

South Fork of Tenmile Creek at Jefferson, Pa.

Location.- Chain gage at highway bridge 1 mile southwest of Jefferson, Greene County, and  $3\frac{1}{2}$  miles downstream from mouth of Ruff Creek.

Drainage area.- 180 square miles.

Records available.- October 1931 to September 1934.

Extremes.- Maximum discharge during year ending Sept. 30, 1932, about 4,370 second-foot Jan. 30 (gage height, 7.70 feet); minimum, 0.1 second-foot Sept. 22-30 (gage height, 0.00 foot).

Maximum gage height during year ending Sept. 30, 1933, 11.58 feet Mar. 14 (discharge not determined); minimum discharge, 0.1 second-foot Oct. 1, 2 (gage height, -0.02 foot).

Maximum gage height during year ending Sept. 30, 1934 (estimated), 12.4 feet Apr. 14 (discharge not determined); minimum discharge, 0.4 second-foot Sept. 26 (gage height, 0.00 foot).

Sept. 26 (gage height, 0.00 foot).  
Remarks.- Records poor. Discharge estimated for periods of ice effect, Mar. 8-16,  
 Dec. 10-12, 14-22, 1932, Feb. 6, 7, 10-14, 17, Nov. 15-17, Dec. 27-29, 1933,  
 Jan. 30 to Mar. 2, 1934.

Daily and monthly discharge, in second-feet, 1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		19	422	1,950	342	41	1,520	31	8.1	4.9	6.5	1.7
2		18	250	1,600	280	36	625	26	6.0	20	4.5	1.8
3		19	136	670	325	34	455	22	6.0	24	3.6	1.5
4		13	136	435	500	75	268	20	5.4	12	2.9	1.7
5		13	136	310	435	230	205	29	4.4	48	6.0	1.8
6		12	96	1,370	340	205	193	28	3.4	46	3.8	1.8
7		11	89	915	280	170	158	26	2.2	36	2.7	1.5
8		13	58	470	340	110	136	20	2.5	49	1.6	1.3
9		13	197	340	230	78	193	14	2.5	36	1.5	1.1
10		19	400	242	218	50	147	29	2.5	19	3.5	1.1
11		13	925	181	193	43	136	126	2.3	12	48	1.0
12		12	1,160	158	181	41	158	276	3.1	6.6	12	.8
13		15	2,360	158	136	39	147	370	3.4	4.6	7.4	.8
14		38	1,500	126	106	38	147	218	4.1	3.9	5.7	.7
15		35	742	126	92	38	115	205	3.4	3.1	4.3	.6
16		29	435	170	87	50	94	136	25	119	2.8	.6
17		27	370	136	115	717	83	91	13	103	1.9	.4
18		27	205	218	96	763	66	61	16	20	295	.4
19		24	158	205	75	370	63	45	13	13	219	.3
20		24	147	170	63	280	62	36	5.4	9.6	101	.2
21		24	115	147	49	580	49	29	4.4	5.7	18	.2
22		63	126	126	58	960	45	24	3.4	3.2	9.9	.1
23		115	230	244	53	585	40	22	3.1	2.5	7.8	.1
24		126	321	625	44	370	33	15	3.4	1.9	6.3	.1
25		115	585	340	42	255	37	13	3.4	1.9	4.9	.1
26		80	370	242	40	230	48	11	2.5	1.5	2.5	.1
27		85	255	268	38	370	46	9.6	3.1	1.6	2.1	.1
28		94	230	205	52	2,090	31	12	3.1	1.7	2.1	.1
29	22	82	193	193	52	2,030	31	9.9	4.4	11	1.8	.1
30	22	428	147	2,680		1,530	33	9.9	4.1	11	2.1	.1
31	21		115	750		1,610		9.6		11	1.8	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October..... 29-31					22	21	21.7	0.121		0.01		
November.....					428	11	53.5	.297		.35		
December.....					2,360	58	406	2.26		2.61		
January.....					2,680	126	509	2.83		3.26		
February.....					500	38	168	.933		1.01		
March.....					2,090	34	452	2.51		2.89		
April.....					1,520	31	178	.989		1.10		
May.....					370	9.6	63.7	.354		.41		
June.....					25	2.2	5.55	.051		.03		
July.....					119	1.5	20.7	.115		.13		
August.....					295	1.5	25.6	.142		.16		
September.....					1.8	.1	.74	.0041		.005		
The year.....												



MONONGAHELA RIVER BASIN

South Fork of Tenmile Creek at Jefferson, Pa.  
(Continued)

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	0.1	2.8	15	592	205	85	205	68	75	17	3.1	2.4	
2	.1	12	16	310	255	75	218	68	54	164	2.5	2.3	
3	1.0	16	17	218	170	68	230	96	44	527	2.2	2.5	
4	1.0	13	22	193	147	60	218	71	61	160	273	21	
5	1.5	12	27	181	115	49	193	57	302	64	122	390	
6	2.1	7.4	19	170	100	38	242	286	126	30	15	124	
7	7.1	7.1	17	181	120	40	400	505	75	18	12	49	
8	4.6	6.6	20	115	354	187	370	435	46	13	6.8	24	
9	2.9	35	17	154	205	466	280	689	32	13	4.1	16	
10	1.6	370	15	325	175	272	230	2,190	27	19	10	10	
11	1.5	154	13	255	155	205	492	1,910	44	23	64	9.0	
12	1.7	102	16	230	145	136	3,420	1,210	21	13	32	8.4	
13	1.5	35	116	136	140	655	760	670	14	9.2	13	9.4	
14	1.4	22	70	147	160	5,070	435	910	12	7.4	15	20	
15	1.2	16	45	115	435	5,700	325	715	11	6.6	8.5	151	
16	1.3	39	32	73	370	1,300	590	585	12	27	7.5	106	
17	1.4	380	25	80	320	588	545	400	15	23	185	52	
18	1.8	170	18	71	255	698	325	268	17	16	60	27	
19	1.5	542	15	71	205	4,600	804	205	13	9.9	31	24	
20	1.5	754	14	83	340	2,500	1,000	170	11	7.8	24	31	
21	1.5	312	13	80	325	4,460	585	205	11	5.2	14	44	
22	1.5	158	100	158	205	1,630	370	136	6.6	4.4	9.6	22	
23	1.7	96	370	340	181	585	255	115	5.7	3.6	7.8	16	
24	2.1	73	470	218	147	400	205	147	4.9	2.8	7.1	13	
25	1.8	64	370	193	136	325	181	147	4.1	4.4	11	11	
26	2.1	60	230	2,930	136	670	230	156	24	13	8.8	6.4	
27	2.5	37	158	522	106	505	218	158	9.9	8.5	6.3	6.4	
28	2.4	25	181	670	87	400	115	344	6.8	6.6	4.6	7.4	
29	4.3	22	158	435		268	96	181	5.7	4.4	3.8	12	
30	3.9	16	181	268		218	75	147	4.9	2.9	2.9	11	
31	3.1		710	295		205		106		3.4	2.7		
Month				Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....				7.1		0.1		2.05		0.011		0.01	
November.....				754		2.8		119		.661		.74	
December.....				710		13		113		.628		.72	
January.....				2,930		71		316		1.76		2.03	
February.....				435		87		203		1.13		1.18	
March.....				5,700		38		1,047		5.82		6.71	
April.....				3,420		75		454		2.52		2.81	
May.....				2,190		57		431		2.59		2.76	
June.....				302		4.1		36.5		.203		.23	
July.....				527		2.8		39.6		.220		.25	
August.....				273		2.2		31.3		.174		.20	
September.....				390		2.3		40.3		.224		.25	
The year.....				5,700		.1		237		1.32		17.89	

## MONONGAHELA RIVER BASIN

South Fork of Tenmile Creek at Jefferson, Pa.  
(Continued)

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.1	3.7	14	628	60	8	268	25	5.6	4.5	7.4	7.1
2	6.7	3.3	13	470	50	15	218	21	5.2	4.8	6.2	6.0
3	5.8	3.5	12	370	40	3,210	170	24	4.8	5.2	352	6.2
4	5.1	3.3	20	242	35	3,820	4,890	20	4.5	5.4	122	4.8
5	5.4	4.1	39	325	30	1,240	1,820	19	4.1	3.9	79	2.7
6	4.5	6.4	36	310	26	790	670	18	3.6	2.4	18	2.4
7	4.1	18	28	1,750	22	310	1,540	17	3.2	2.8	8.4	2.2
8	3.7	15	22	1,210	19	255	715	18	2.6	2.3	7.6	1.9
9	3.5	14	22	548	16	205	470	16	3.3	2.1	5.2	1.7
10	3.2	10	18	340	14	181	310	19	2.9	2.6	3.6	1.7
11	3.3	10	15	218	12	136	340	20	3.5	188	3.1	1.7
12	3.0	9.7	14	181	11	126	370	17	3.3	1,160	2.2	1.7
13	3.2	10	12	170	10	154	400	16	2.8	772	2.4	1.7
14	3.2	10	12	193	9	340	370	20	2.2	145	3.9	1.7
15	3.0	9	14	158	8	242	340	27	2.0	23	3.8	1.7
16	3.2	8	202	181	20	280	325	47	1.9	16	220	3.7
17	2.7	8	416	170	17	230	193	42	1.7	25	334	4.3
18	2.4	9.4	942	84	15	242	147	20	9.0	13	112	5.3
19	2.5	10	372	96	13	181	126	17	99	3.8	62	3.7
20	2.4	24	291	84	12	218	106	15	54	3.2	18	2.7
21	4.1	23	353	96	11	170	84	13	16	2.8	13	2.7
22	4.0	18	319	79	10	158	82	12	12	2.3	8.7	2.5
23	3.7	16	218	91	10	115	73	14	21	1.9	6.2	1.7
24	3.7	16	147	115	9	106	63	15	28	1.8	16	1.7
25	4.1	12	425	96	9	89	48	20	16	2.1	87	.6
26	3.8	12	280	93	9	96	40	16	9.8	2.4	100	.7
27	3.5	11	190	75	8	804	40	12	2.1	1.9	29	7.0
28	3.3	14	160	94	8	880	37	8.9	7.1	4.1	21	4.4
29	3.5	14	140	181		435	35	8.1	7.1	114	16	26
30	3.2	14	126	85		310	29	7.4	5.8	16	11	331
31	3.5		181	70		280		5.8		8.1	8.7	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7.1	2.4	3.82	0.021	0.02
November	24	3.3	11.3	.063	.07
December	942	12	163	.906	1.04
January	1,750	70	284	1.58	1.82
February	60	8	18.3	.102	.11
March	3,820	8	504	2.80	3.23
April	4,890	29	477	2.65	2.96
May	47	5.8	18.4	.102	.12
June	99	1.7	11.7	.065	.07
July	1,160	1.8	82.0	.456	.53
August	352	2.2	54.4	.302	.35
September	331	.4	14.7	.082	.09
The year	4,890	.4	138	.767	10.41



Youghiogheny River at Connellsville, Pa.

Location.- Water-stage recorder at Crawford Avenue Bridge, at Connellsville, Fayette County. Zero of gage is 860.13 feet above mean sea level.

Drainage area.- 1,326 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; July 1908 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge - 25 years (1908-34), 2,464 second-feet.

Extremes.—Maximum discharge during year, 25,000 second-foot Mar. 4 (gage height, 10.77 feet); minimum, 135 second-foot Oct. 31 (gage height, 0.73 foot); minimum daily discharge, 159 second-foot Oct. 31.

1908-34: Maximum discharge (revised), about 85,600 second-feet Mar. 29,  
1924 (gage height, 20.5 feet, from graph based on gage readings); minimum, 11  
second-feet Sept. 23, 26, 27, 1908, Oct. 18, 1910 (gage height, 0.11 foot).  
Discharge for periods of ice effect, Dec.

Remarks.— Records excellent except those estimated for periods of ice effect, Dec. 13-14, Dec. 29 to Jan. 1, Jan. 31 to Feb. 8, and for period of missing gage-height record, Feb. 9 to Mar. 14, which are fair. Regulation from operation of hydroelectric plants upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	374	219	989	5,000	1,800	500	3,290	962	435	279	370	327
2	282	255	810	8,580	1,500	1,000	2,940	899	423	358	287	286
3	313	173	717	5,760	1,250	3,500	2,440	863	452	219	471	255
4	304	162	853	4,230	1,050	18,000	6,480	854	455	238	1,150	211
5	290	223	1,420	4,700	900	12,000	12,300	828	406	250	546	266
6	227	310	1,350	7,370	825	9,000	7,150	768	355	176	332	243
7	298	734	1,190	16,200	750	6,000	6,220	726	358	185	255	236
8	416	491	1,140	18,500	700	4,500	5,360	658	328	210	264	260
9	596	732	1,020	10,100	650	3,700	4,130	610	264	360	602	388
10	243	626	861	6,560	610	3,100	3,380	641	420	285	1,450	291
11	320	492	744	4,830	570	2,600	3,110	989	470	532	872	230
12	329	559	504	3,660	540	2,100	3,940	1,010	364	594	742	250
13	327	985	370	3,020	510	1,900	4,230	818	438	1,380	1,080	211
14	292	1,380	650	2,940	490	4,000	4,130	717	429	4,090	1,790	228
15	285	1,220	962	2,600	470	3,600	4,330	1,080	336	2,510	1,590	248
16	309	750	4,530	2,300	450	3,290	4,430	1,900	284	1,020	5,960	409
17	233	660	8,880	2,160	430	3,200	4,530	1,590	260	658	13,800	818
18	354	1,050	12,700	1,770	420	3,020	3,840	1,310	378	524	5,140	971
19	410	2,240	7,280	1,960	410	2,850	3,200	1,130	2,200	410	2,450	566
20	400	2,020	5,140	1,710	400	2,600	2,760	1,120	2,280	306	1,590	380
21	313	1,650	7,430	1,500	390	2,300	2,370	899	1,050	303	1,220	280
22	252	1,480	5,570	1,360	380	2,020	2,020	819	688	354	944	262
23	203	1,500	4,040	2,140	370	1,770	1,830	917	628	206	734	417
24	223	1,210	3,200	3,470	365	1,480	1,710	802	916	217	794	344
25	306	1,120	3,840	2,940	360	1,480	1,480	708	657	280	1,090	227
26	325	935	3,560	2,850	355	1,480	1,310	726	504	248	836	242
27	298	926	2,630	2,760	350	2,910	1,250	953	378	283	606	226
28	259	890	1,670	2,520	345	6,440	1,280	717	342	604	538	259
29	259	863	1,400	4,130		5,140	1,240	573	336	740	459	542
30	170	890	1,350	2,950		3,940	1,050	559	294	531	401	3,930
31	159		2,000	2,200		3,200		484		418	342	
Month				Maximum		Minimum		Mean		Per square mile		Run-off in inches
October.....				416		159		297		0.224		0.26
November.....				2,240		162		892		.673		.75
December.....				12,700		370		2,985		2.16		2.49
January.....				18,500		1,500		4,599		3.47		4.00
February.....				1,800		345		630		.475		.49
March.....				18,000		500		3,955		2.98		3.44
April.....				12,300		1,050		3,591		2.71		3.02
May.....				1,900		484		891		.672		.77
June.....				2,280		260		571		.431		.48
July.....				4,090		176		605		.456		.53
August.....				13,800		255		1,571		1.18		1.36
September.....				3,950		211		460		.347		.39
The year.....				18,500		159		1,757		1.33		17.98

Youghiogheny River at Sutersville, Pa.

Location.- Chain gage at highway bridge at Sutersville, Westmoreland County. Zero of gage is 733.14 feet above mean sea level.

Drainage area.- 1,715 square miles.

Records available.- October 1931 to September 1934 in reports of U. S. Geological Survey; June 1915 to September 1929, June 1931 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 12 years (1920-29, 1931-34), 2,833 second-feet.

Average discharge.- 12 years (1920-29, 1931-34), 2,833 second-feet.  
Extremes.- Maximum gage height during year (estimated), 23.0 feet Mar. 4 (discharge not determined because of ice); minimum discharge, 206 second-feet Nov. 5 (gage height, 2.67 feet); minimum gage height, 2.40 feet July 25; minimum daily discharge, 220 second-feet Nov. 5.

1915-29, 1931-34: Maximum discharge, about 88,200 second-feet Mar. 30, 1924 (gage height, 27.5 feet, from graph based on gage readings); minimum gage height, 1.96 feet July 10, 1918 (discharge not determined).

Remarks.- Records fair except those for high stages and those estimated for periods of ice effect, Dec. 29-31, Feb. 1 to Mar. 4, which are poor. Diurnal regulation from operations at hydroelectric plants upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	526	230	992	8,350	2,000	550	3,890	1,220	562	384	506	479
2	444	306	992	8,440	1,650	1,100	3,690	1,120	506	364	454	479
3	379	354	825	8,800	1,350	4,000	3,100	1,070	506	406	656	429
4	451	241	786	4,250	1,150	20,000	5,470	1,020	562	343	764	429
5	417	220	1,220	4,210	1,050	15,300	14,100	1,020	479	364	685	343
6	360	354	1,710	16,800	950	13,700	8,880	975	506	364	592	406
7	306	492	1,420	13,200	870	8,480	8,480	885	429	288	429	384
8	444	1,080	1,320	22,700	800	5,780	7,100	802	429	324	384	384
9	512	1,080	1,220	11,400	740	4,500	5,340	764	429	324	1,420	406
10	444	866	1,080	6,850	700	3,490	4,500	764	429	406	2,300	454
11	329	746	950	5,010	660	3,100	4,090	1,020	533	474	1,500	454
12	424	526	663	3,690	630	2,550	4,290	1,220	479	662	1,440	364
13	417	861	437	3,560	600	2,010	4,920	1,070	479	1,070	1,750	406
14	417	1,370	678	3,190	570	4,240	4,500	930	533	4,290	2,910	406
15	385	1,590	1,170	3,020	550	4,710	4,710	930	506	3,490	1,980	429
16	398	1,220	2,090	2,700	530	3,890	4,710	1,830	406	1,700	5,240	802
17	417	875	6,850	2,540	510	3,690	5,130	2,550	384	802	17,700	609
18	300	1,240	14,100	2,100	490	3,690	4,290	1,630	945	624	7,560	1,350
19	471	1,610	8,160	2,100	470	3,490	3,690	1,380	1,220	533	3,490	975
20	526	2,540	5,480	1,960	460	3,290	3,290	1,170	2,910	454	2,380	624
21	471	1,960	6,950	1,590	450	2,910	3,100	1,270	1,630	406	1,760	506
22	417	1,710	5,890	1,590	440	2,730	2,550	1,020	1,020	406	1,320	429
23	366	1,710	4,440	1,830	430	2,380	2,380	1,020	885	406	1,120	406
24	289	1,540	3,530	3,190	420	2,050	2,050	1,070	802	305	1,270	506
25	306	1,670	3,530	3,190	410	1,760	1,980	885	1,070	305	1,630	429
26	391	1,270	3,890	2,700	400	1,980	1,700	802	624	343	1,500	384
27	411	1,120	3,190	2,860	390	3,140	1,500	885	562	343	975	429
28	391	1,080	2,100	2,540	390	6,910	1,560	1,070	454	506	764	384
29	341	992	1,800	3,820		6,220	1,560	726	429	726	726	1,040
30	341	992	1,700	3,300		4,710	1,380	624	429	726	624	4,080
31	246		3,500	2,560		4,090		624		624	533	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					526	246	397	0.231		0.27		
November.....					2,540	220	1,055	.615		.69		
December.....					14,100	437	2,989	1.74		2.01		
January.....					22,700	1,590	5,195	3.03		3.49		
February.....					2,000	390	716	.417		.43		
March.....					20,000	550	4,853	2.83		3.26		
April.....					14,100	1,380	4,264	2.49		2.78		
May.....					2,050	624	1,060	.618		.71		
June.....					2,910	384	705	.411		.46		
July.....					4,290	288	734	.428		.49		
August.....					17,700	384	2,147	1.25		1.44		
September.....					4,080	343	640	.373		.42		
The year.....					22,700	220	2,078	1.21		16.45		



## Casselman River at Markleton, Pa.

**Location.**- Chain gage at highway bridge at Markleton, Somerset County, 2 miles southwest of Casselman and 7 miles below mouth of Coxes Creek.

**Drainage area.**- 382 square miles.

**Records available.**- August to September 1913, October 1920 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1913 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

**Average discharge.**- 14 years (1920-34), 600 second-feet.

**Extremes.**- Maximum discharge during year, 9,900 second-feet Jan. 16 (gage height, 8.7 feet, from graph based on gage readings); minimum, 27 second-feet July 9 (gage height, 1.70 feet).

1913-34: Maximum gage height, 12.17 feet Mar. 29, 1924 (discharge not determined); minimum discharge, 11 second-feet Aug. 13, 1930 (gage height, 1.52 feet).

**Remarks.**- Records fair except those for high stages and those estimated for periods of ice effect, Nov. 16-18, Dec. 11-15, 28-31, Jan. 31 to Mar. 3, which are poor. Slight regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	47	178	2,520	370	100	960	260	98	51	42	51
2	117	46	148	2,160	320	150	848	238	93	47	37	44
3	82	46	145	1,300	280	1,500	705	220	80	43	124	41
4	77	42	233	970	250	2,880	2,580	229	70	61	114	41
5	68	46	361	1,680	230	3,440	2,640	204	61	50	74	38
6	61	101	265	1,930	210	2,470	1,690	196	86	41	48	36
7	55	197	237	6,520	190	1,300	1,900	185	61	35	34	32
8	61	175	208	4,460	170	960	1,300	170	53	32	30	34
9	63	132	191	2,290	160	705	1,080	152	61	28	406	37
10	58	112	117	1,900	150	635	885	156	121	31	372	35
11	60	105	105	1,210	140	533	885	279	78	31	182	32
12	51	215	100	1,000	135	440	1,120	220	80	29	177	31
13	51	269	95	1,000	130	533	1,080	174	82	1,040	263	30
14	48	273	105	848	125	1,160	1,040	160	90	1,870	416	34
15	46	148	200	740	120	670	1,120	384	65	605	247	41
16	38	135	1,690	635	116	740	1,120	502	51	284	4,430	369
17	73	129	2,860	411	112	705	1,120	332	43	177	2,800	564
18	108	280	2,720	370	109	740	922	260	57	118	810	202
19	92	572	1,400	350	106	635	810	220	1,410	88	510	124
20	68	393	1,450	320	103	566	740	204	590	80	357	88
21	60	342	1,790	332	101	502	670	174	256	76	251	65
22	60	356	1,150	384	99	470	566	170	177	63	189	54
23	52	304	890	635	97	411	600	185	234	54	156	50
24	51	233	740	566	96	357	502	174	238	42	210	41
25	60	201	1,060	566	95	411	440	166	130	36	229	32
26	55	175	810	635	94	470	384	220	98	36	149	31
27	50	151	510	533	93	1,010	357	177	82	34	110	49
28	47	208	450	635	92	1,800	357	142	70	224	93	68
29	46	211	400	1,040		1,210	302	127	65	118	84	116
30	43	201	370	600		1,000	265	118	56	68	68	1,210
31	43	850	430			848		102		51	61	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	117	38	61.7	0.162	0.19							
November	572	42	195	.510	.57							
December	2,860	95	704	1.84	2.12							
January	6,520	320	1,255	3.29	3.79							
February	370	92	153	.401	.42							
March	3,440	100	947	2.48	2.98							
April	2,640	265	963	2.52	2.31							
May	502	102	210	.550	.63							
June	1,410	43	158	.414	.46							
July	1,970	28	179	.469	.54							
August	4,430	30	422	1.10	1.27							
September	1,210	30	121	.317	.35							
The year	6,520	28	451	1.18	16.01							

## Big Piney Run near Salisbury, Pa.

**Location.**- Water-stage recorder an eighth of a mile above Little Piney Run, a quarter of a mile north of Maryland-Pennsylvania State line, and 2½ miles southeast of Salisbury, Somerset County.

**Drainage area.**- 24.5 square miles.

**Records available.**- June 1932 to September 1934.

**Extremes.**- Maximum discharge during period ending Sept. 30, 1932, 86 second-feet July 16; minimum, 0.25 second-foot Sept. 13, 20-22 (gage height, 1.06 feet).

Maximum discharge during year ending Sept. 30, 1933, about 1,420 second-feet (gage height, 6.1 feet); minimum, 0.35 second-foot Oct. 4 (gage height, 1.08 feet).

Maximum discharge during year ending Sept. 30, 1934, about 968 second-feet Jan. 7 (gage height, 5.1 feet); minimum, 0.4 second-foot Aug. 8, 9 (gage height, 1.09 feet).

**Remarks.**- Records excellent except those above 150 second-feet, those Mar. 16 to Nov. 22, 1933, and those estimated for period of missing gage-height record, Feb. 27 to Mar. 2, 1934, which are fair. Discharge estimated for period of construction, Aug. 13-16, 1932. Records, excepting last three columns of monthly table, do not include water diverted 3 miles above gage through pumps to city of Frostburg, Md.

Daily and monthly discharge, in second-feet, 1932

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									7.5	2.8	1.4	0.55
2									10	4.5	1.1	.48
3									11	2.8	1.6	.48
4									7	3.6	2.2	.48
5									6	5.5	1.5	.41
6									5	3.3	1.0	.35
7									4.2	3.6	1.9	.35
8									4.2	3.9	6	.35
9									4.2	3.3	2.0	.30
10									3.9	2.4	1.2	.30
11									3.6	1.5	2.2	.30
12									5.5	1.6	1.5	.30
13									7.5	1.5	1.5	.25
14									11	1.2	1.1	.65
15									5.5	1.2	1.0	1.1
16									8	23	.9	.48
17									7	5.5	.65	.35
18									6	3.0	8.3	.30
19									13	2.0	6.2	.30
20									12	1.5	2.7	.25
21									19	2.4	1.7	.25
22									25	7	1.2	.25
23									9	2.8	1.0	.30
24									6	1.6	.8	.35
25									3.9	1.2	.65	.35
26									3.3	1.0	.48	.35
27									3.6	7	.48	.48
28									6	7.5	.48	1.4
29									3.6	6.5	.41	.8
30									2.6	3.0	.48	.55
31										2.0	.55	
Month	Observed			Corrected for diversion								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October												
November												
December												
January												
February												
March												
April												
May												
June	25	2.6	7.47	7.54	0.308	0.34						
July	23	1.0	3.86	3.98	.162	.19						
August	8.3	.41	1.74	1.92	.078	.09						
September	1.4	.25	.444	1.560	.023	.03						
The year												



Big Piney Run near Salisbury, Pa.

(Continued)

Daily and monthly discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	36	13	45	47	42	111	26	19	2.7	1.4	6.5
2	.4	31	12	42	76	36	106	36	16	3.7	1.2	4.0
3	.4	25	14	37	80	32	98	55	14	33	1.3	6
4	.35	21	13	37	66	28	82	44	18	13	1.5	28
5	.8	18	12	40	50	24	65	48	17	5.5	4.4	24
6	17	16	11	31	43	22	81	137	13	4.0	2.7	14
7	8.5	14	10	28	42	30	146	166	11	3.4	1.5	9
8	2.6	13	9	25	88	56	122	222	19	3.2	1.3	6.5
9	1.4	86	7	28	56	48	92	315	12	3.6	1.2	4.4
10	.9	244	5.5	26	51	42	70	330	20	5.5	1.4	3.1
11	.7	121	7	25	47	42	58	247	11	3.1	3.2	3.4
12	.6	72	9	29	41	42	111	192	9.5	2.4	2.3	6
13	.6	47	10	22	35	303	85	146	8	2.1	1.4	4.4
14	.6	36	9.5	24	35	736	76	125	7	1.5	1.1	8
15	.6	30	7.5	23	47	421	62	95	6.5	1.6	.9	39
16	.7	25	7.5	21	36	205	83	113	6	3.2	.7	24
17	65	28	9.5	21	35	132	158	92	8	2.3	.7	24
18	126	21	7	22	36	116	129	76	11	1.7	.8	17
19	61	159	6	24	33	259	198	59	16	1.2	.7	12
20	39	147	5.5	22	58	236	376	50	7.5	1.1	.6	14
21	26	91	5	21	57	199	221	44	3.2	1.5	.5	10
22	20	58	20	31	50	148	141	35	2.9	1.3	.5	8
23	16	42	26	33	49	110	96	29	2.7	2.8	10	6
24	15	35	85	31	42	81	70	28	2.7	1.5	55	5
25	12	29	89	38	54	58	64	47	2.4	11	19	4.2
26	11	28	67	84	61	54	56	32	2.3	7	9	3.4
27	34	18	55	100	52	47	42	29	9.5	12	6	3.2
28	26	15	64	84	47	50	36	27	9	6	4.0	2.9
29	22	13	53	64	56	56	32	24	4.2	3.4	3.2	2.9
30	18	14	53	56	65	65	28	29	3.2	2.3	2.7	2.4
31	16	57	47	47	92	92	23	23	1.8	5	5	
Month	Observed			Corrected for Diversion								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October.....	126	0.35	17.5	17.7	0.722	0.83						
November.....	244	13	51.1	51.1	2.09	2.33						
December.....	89	5	24.5	24.6	1.00	1.15						
January.....	100	21	37.4	37.5	1.53	1.76						
February.....	89	33	50.5	50.5	2.06	2.14						
March.....	736	22	123	123	5.02	5.79						
April.....	376	28	103	103	4.20	4.69						
May.....	330	23	94.2	94.2	3.84	4.45						
June.....	20	2.3	9.72	9.89	.404	.45						
July.....	33	1.1	5.22	5.48	.224	.26						
August.....	55	.5	5.12	5.46	.224	.26						
September.....	39	2.4	10.2	10.6	.433	.48						
The year.....	736	.35	44.3	44.4	1.81	24.57						

Big Piney Run near Salisbury, Pa.

(Continued)

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	1.2	5.2	145	32	6.0	62	15	3.7	3.3	0.6	1.1
2	11	1.1	4.7	131	27	7.0	53	14	3.1	2.9	.7	1.2
3	4.2	1.1	5.5	85	23	87	46	14	2.5	2.6	3.1	1.4
4	3.1	1.1	17	62	20	80	227	15	2.3	2.8	1.9	1.0
5	2.7	1.3	15	120	18	134	205	12	2.3	2.6	.8	.8
6	2.1	7.0	14	140	15	106	134	11	2.1	2.3	.6	.9
7	1.8	12	12	645	14	72	116	9.9	2.0	1.7	.6	1.1
8	2.1	8.5	10	310	13	55	84	8.4	1.8	1.6	.6	1.6
9	2.1	5.5	8.0	158	11	45	66	8.0	2.3	1.4	8.2	1.7
10	1.8	4.9	6.7	102	7.7	38	53	8.7	3.7	1.8	5.5	1.0
11	1.6	4.4	6.1	71	7.7	31	53	15	2.0	2.0	2.2	.9
12	1.5	12	7.3	54	9.1	36	56	9.5	6.1	4.6	1.3	1.1
13	1.4	11	7.7	47	10	38	52	8.0	6.2	6.4	4.9	.9
14	1.3	9.8	6.1	41	9.5	39	54	8.4	2.5	20	5.6	.9
15	1.1	8.0	6.7	34	9.9	38	54	13	2.3	4.7	4.4	2.0
16	.9	8.5	74	27	15	30	68	13	2.2	2.8	62	48
17	6.3	8.0	196	20	9.1	28	67	10	1.7	2.5	48	31
18	4.9	15	162	21	7.0	30	56	9.5	27	2.2	21	14
19	2.6	19	95	20	9.5	26	53	9.1	137	2.0	13	9.5
20	2.0	16	84	16	8.0	25	49	8.0	43	1.7	8.0	6.4
21	1.8	14	76	16	9.1	24	39	7.3	26	2.0	5.2	4.7
22	1.7	15	58	16	6.4	24	34	7.3	18	1.6	4.1	4.3
23	1.8	12	48	20	7.0	16	34	7.3	19	1.2	3.1	3.5
24	2.1	9.5	39	18	7.0	20	28	6.1	12	1.0	2.9	2.8
25	1.7	7.7	52	18	8.7	20	24	12	8.7	.9	2.8	2.3
26	1.4	6.7	36	21	5.5	24	21	9.5	6.4	1.1	2.5	3.5
27	1.2	7.0	29	19	5.0	79	22	7.3	5.2	.9	2.1	7.7
28	1.2	7.0	35	26	5.0	128	20	6.1	4.7	6.2	1.8	4.3
29	1.6	8.0	28	34		96	17	5.2	3.9	1.7	1.8	45
30	1.2	6.4	26	36		74	15	5.2	3.1	.9	1.5	109
31	1.5		55	41		66		4.3		.9	1.3	
Month	Observed			Corrected for diversion								
	Maximum	Minimum	Mean	Mean	Per square mile	Run-off in inches						
October.....	11	0.9	2.45	2.80	0.114	0.13						
November.....	19	1.1	8.29	8.67	.354	.40						
December.....	196	4.7	39.6	39.7	1.62	1.87						
January.....	645	16	81.1	81.2	3.31	3.82						
February.....	32		11.8	12.0	.490	.51						
March.....	134		49.1	49.2	2.01	2.32						
April.....	227	15	62.1	62.2	2.54	2.83						
May.....	15	4.3	9.68	9.65	.394	.45						
June.....	137	1.7	12.1	12.3	.502	.56						
July.....	20	.9	2.91	3.19	.130	.15						
August.....	62	.6	7.16	7.54	.308	.36						
September.....	109	.8	10.5	10.5	.441	.49						
The year.....	645	.6	24.8	25.0	1.02	13.89						



## MONONGAHELA RIVER BASIN

Laurel Hill Creek at Ursina, Pa.

Location.- Chain gage at highway bridge at Ursina, Somerset County.

Location.- Chain gage at highway  
Drainage area.- 121 square miles.

Drainage area.- 121 square miles.  
Records available.- August to September 1913, October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1913 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 18 years (1916-34), 272 second-feet.

Extremes.- Maximum discharge during year, 4,920 second-feet Aug. 16 (gage height, 6.6 feet, from graph based on gage readings); minimum, 8.5 second-feet July 12 (gage height, 1.67 feet); minimum daily discharge, 12 second-feet July 11, 12.

1913-34: Maximum gage height, 9.30 feet Mar. 29, 1924 (discharge not determined); no flow Aug. 22, 1917, Feb. 15, 1919; minimum daily discharge recorded, 1 second-foot Aug. 22, Sept. 1, 1917.

Remarks.- Records fair except those estimated for periods of ice effect, Nov. 16-18, 27, Dec. 11-15, 28, 29, Jan. 17-19, Feb. 1 to Mar. 3, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	27	20	83	1,160	270	50	339	87	38	26	55	43		
2	28	21	74	900	210	70	295	81	35	24	22	38		
3	25	22	72	500	170	600	248	81	30	21	75	32		
4	24	23	127	381	150	2,310	1,490	72	28	32	90	24		
5	23	23	156	665	130	2,440	1,440	69	24	30	50	26		
6	19	64	120	630	120	1,600	700	57	21	21	27	21		
7	18	80	114	2,120	110	815	738	63	20	17	20	26		
8	22	55	101	1,490	102	500	596	52	17	16	16	22		
9	21	48	91	895	96	376	424	38	24	16	470	28		
10	23	39	80	563	90	290	360	55	30	16	394	22		
11	24	61	72	414	85	244	376	138	24	12	131	20		
12	19	80	68	305	80	230	397	84	28	12	124	16		
13	18	120	66	280	76	196	360	75	26	562	184	26		
14	18	156	72	276	72	453	381	69	20	1,230	432	26		
15	16	107	170	222	68	285	392	188	18	488	360	27		
16	14	92	1,300	192	65	324	563	230	16	152	2,120	52		
17	24	88	2,030	170	62	314	494	164	15	113	2,270	138		
18	36	200	2,190	155	59	324	402	145	51	84	804	38		
19	28	324	924	145	56	290	344	117	664	57	430	38		
20	24	180	596	142	54	257	295	117	340	47	300	30		
21	23	124	665	145	52	226	248	100	134	57	189	22		
22	22	176	482	160	50	209	222	87	90	43	152	22		
23	22	172	365	271	48	188	205	156	138	30	117	18		
24	22	131	285	355	47	142	172	113	87	27	168	17		
25	24	110	532	205	46	176	145	104	60	20	196	26		
26	21	98	355	314	45	176	134	84	47	17	145	24		
27	19	93	248	276	44	593	131	72	35	20	90	28		
28	21	91	215	310	43	739	120	60	32	146	75	40		
29	20	104	200	616		453	104	57	27	52	72	335		
30	20	94	196	459		344	87	56	27	30	52	686		
31	19		350	331		262		47		27	50			
Month					Maximum		Minimum		Mean		Per square mile		Run-off in inches	
October.....					36		14		22.1		0.183		0.21	
November.....					324		20		99.9		.826		.92	
December.....					2,190		66		400		3.31		3.82	
January.....					2,120		142		490		4.05		4.67	
February.....					270		43		89.3		.738		.77	
March.....					2,440		50		499		4.12		4.75	
April.....					1,490		87		407		3.36		3.76	
May.....					230		38		94.1		.778		.90	
June.....					664		15		71.5		.591		.66	
July.....					1,230		12		111		.917		1.06	
August.....					2,270		16		312		2.68		2.97	
September.....					686		16		63.7		.526		.59	
The year.....					2,440		12		223		1.84		25.07	

## Turtle Creek at Trafford, Pa.

Location.— Chain gage at highway bridge at Blackburn railroad station half a mile northeast of Trafford, Westmoreland County, and 7 miles above confluence with Monongahela River.

Drainage area.- 54.8 square miles.

Records available. - October 1920 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; July 1914 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge,- 14 years (1920-34), 78.3 second-feet.

Extremes.—Maximum discharge during year (estimated), 2,510 second-foot Aug. 9 (gage height, 6.00 feet); minimum, 0.7 second-foot several times during June and July (gage height, 0.24 foot).

1914-34: Maximum gage height (estimated), 8.5 feet Mar. 15, 1933 (discharge not determined); minimum discharge, 0.1 second-foot Oct. 6, 7, 1922 (gage height, 0.10 foot).

Remarks.- Records poor. Discharge estimated for periods of ice effect, Nov. 15-21, 27, Dec. 10-15, 28-31, Jan. 30 to Mar. 3, Mar. 11, 12. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	5.5	8.6	202	110	9	109	23	2.0	5.5	3.1	17
2	13	5.9	8.6	142	75	9	89	23	1.7	2.2	2.3	16
3	8.6	6.3	9.2	91	82	10	74	20	1.4	1.5	4.4	13
4	9.2	5.1	33	76	50	963	618	19	1.4	2.0	12	11
5	9.2	4.2	26	115	40	235	394	18	2.4	1.2	5.1	10
6	8.0	18	24	94	32	158	216	16	2.4	1.4	3.1	8.0
7	6.3	15	18	524	28	91	359	14	1.1	1.2	2.2	8.0
8	5.6	12	19	318	23	63	219	16	1.1	11	1.7	7.6
9	5.1	10	15	187	20	49	152	15	1.0	3.6	513	7.2
10	4.6	10	12	131	17	45	120	13	1.4	1.4	97	6.3
11	4.2	9.8	10	104	15	43	199	17	2.2	1.2	621	6.3
12	4.6	9.8	9	78	13	43	140	9.8	1.1	1.4	182	6.7
13	4.6	7.6	9	81	12	58	111	9.2	.8	3.1	225	23
14	3.8	14	10	72	11	86	102	66	1.0	165	113	64
15	3.3	10	25	64	11	60	91	150	.7	30	60	38
16	2.9	9	319	68	10	80	84	20	1.0	12	239	121
17	9.8	10	516	58	10	68	72	14	.8	6.3	214	82
18	8.0	15	372	62	10	80	66	9.2	1.6	3.3	94	45
19	7.6	24	165	55	10	60	64	7.6	24	2.9	60	32
20	6.3	23	383	47	9	70	56	5.5	3.8	25	41	24
21	6.7	21	320	48	9	64	47	5.5	2.2	15	31	19
22	4.6	19	150	47	9	55	45	14	2.4	7.6	31	16
23	6.7	15	98	53	9	40	47	8.6	21	2.2	29	12
24	7.6	13	76	47	9	50	43	6.3	3.6	1.5	312	10
25	6.3	10	91	43	9	46	39	8.6	2.6	1.2	229	10
26	5.1	12	81	30	9	41	41	5.1	1.4	.8	105	8.0
27	5.9	8	58	34	9	196	36	3.8	7.2	.8	63	29
28	5.9	11	48	40	9	203	29	3.1	2.6	8.0	48	18
29	4.2	10	42	63		115	26	4.2	5.2	1.5	36	917
30	4.2	11	40	100		89	24	3.6	21	1.0	27	611
31	5.1		100	150		83		2.2		17	22	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					17	2.9	6.58	0.120		0.14		
November.....					24	4.2	11.8	.215		.24		
December.....					516	8.6	99.9	1.82		2.10		
January.....					524	30	104	1.90		2.19		
February.....					110	9	22.9	.418		.44		
March.....					963	9	105	1.92		2.21		
April.....					618	24	124	2.26		2.52		
May.....					150	2.2	17.8	.325		.37		
June.....					24	.7	4.07	.074		.08		
July.....					165	.8	10.9	.199		.23		
August.....					621	1.7	112	2.04		2.55		
September.....					917	6.3	73.2	1.34		1.60		
The year.....					983	.7	58.0	1.06		14.37		



## Beaver River at Wampum, Pa.

Location.- Staff gage at highway bridge at Wampum, Lawrence County. Chain gage at same site and datum used prior to Oct. 3, 1933.  
 Drainage area.- 2,235 square miles.  
 Records available.- June to September 1914, August 1932 to September 1934.  
 Extremes.- Maximum discharge during year, 17,300 second-feet Aug. 9 (gage height, 11.7 feet, from graph based on gage readings); minimum, 100 second-feet Oct. 16 (gage height, 1.80 feet).  
 1914, 1932-34: Maximum discharge, about 30,800 second-feet Mar. 15, 1933 (gage height, 16.06 feet); minimum, 74 second-feet July 30, 1933 (gage height, 1.70 feet); minimum daily discharge, 97 second-feet July 22, Aug. 23, 1933.  
 Remarks.- Records fair. Discharge estimated for periods of ice effect, Dec. 27, 28, Feb. 7, 8. Regulation from storage in Pymatuning Reservoir and from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	151	533	1,070	662	179	2,390	543	169	233	351	248
2	147	170	596	2,400	629	234	2,240	446	163	203	240	233
3	147	162	533	2,720	596	2,260	1,960	417	163	182	629	210
4	154	151	596	2,090	564	7,980	4,120	417	151	166	509	206
5	427	151	564	1,860	473	7,800	7,120	388	182	151	316	225
6	285	213	596	1,540	416	7,600	7,500	372	266	129	257	206
7	170	236	533	1,860	400	5,450	6,000	335	274	157	210	196
8	126	213	596	2,090	350	3,800	3,980	335	196	221	225	237
9	126	213	564	1,970	320	3,320	2,840	311	186	172	7,980	1,270
10	132	213	533	1,640	300	1,960	2,100	321	182	148	5,120	1,280
11	126	213	533	1,490	270	1,210	2,390	351	166	148	2,690	730
12	116	251	473	1,240	251	952	2,540	321	157	189	1,260	478
13	116	270	444	1,060	260	815	2,690	257	145	189	905	372
14	116	336	416	1,010	236	1,210	2,690	266	154	377	730	283
15	116	416	416	1,060	260	1,320	2,690	301	151	301	614	305
16	100	300	564	1,010	260	1,500	2,540	287	139	205	577	973
17	132	310	662	926	236	1,620	2,100	274	132	189	614	1,210
18	140	300	926	732	222	1,620	1,760	274	126	182	478	1,210
19	126	320	732	697	192	1,620	1,320	266	182	182	417	815
20	151	310	967	732	236	1,500	1,100	244	157	278	383	543
21	285	336	1,490	662	222	1,500	952	225	154	292	417	417
22	270	373	1,750	662	179	1,560	952	253	257	217	330	351
23	260	444	1,490	732	192	1,620	905	244	383	166	446	335
24	204	732	1,190	732	170	1,260	952	206	333	139	478	346
25	192	662	1,100	806	162	1,000	815	206	189	157	690	292
26	162	732	967	662	151	1,000	860	189	239	157	478	266
27	151	732	900	662	151	3,750	860	189	753	160	388	292
28	151	732	810	732	140	5,100	730	189	417	163	383	311
29	140	732	697	967		3,720	690	189	297	154	372	1,240
30	140	596	596	697		2,770	690	172	301	139	311	2,250
31	151		596	697		2,390		163		497	274	
Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches							
October	427	100	168	0.075	0.09							
November	732	151	366	.154	.13							
December	1,750	416	754	.337	.39							
January	2,720	662	1,200	.537	.62							
February	662	140	304	.136	.14							
March	7,980	179	2,568	1.15	1.33							
April	7,500	690	2,349	1.05	1.17							
May	543	163	288	.129	.15							
June	753	126	222	.099	.11							
July	497	129	201	.090	.10							
August	7,980	210	970	.434	.50							
September	2,250	196	578	.259	.29							
The year	7,980	100	834	.373	5.07							

## Pymatuning Reservoir at Pymatuning Dam, Pa.

Location.- Water-stage recorder in gate house at Pymatuning Dam, Crawford County, 1 3/4 miles northwest of Crawford. Zero of gage is at mean sea level.  
 Drainage area.- 158 square miles.  
 Records available.- October 1933 to September 1934.  
 Extremes.- Maximum water-surface elevation during year, 995.85 feet May 7; minimum, 975.70 feet Oct. 15, 16, 19.  
 Remarks.- Records excellent. Reservoir used to regulate flow in Shenango River. Elevation of spillway is 1,008.0 feet. Total capacity of reservoir is 8,640,000,000 cubic feet.

Daily mean gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	975.88	975.75	978.80	982.92	984.80	985.97	992.93	995.64	995.34	994.74	993.87	994.65
2	975.79	975.72	978.70	984.55	984.92	985.99	993.09	995.62	995.34	994.74	993.82	994.69
3	975.77	975.76	978.44	984.55	985.05	986.21	993.18	995.62	995.31	994.72	993.95	994.66
4	975.75	975.74	979.06	984.75	985.16	987.14	993.66	995.60	995.35	994.72	993.90	994.64
5	975.76	975.72	980.08	985.06	985.25	988.12	993.97	995.60	995.26	994.63	993.94	994.62
6	975.77	975.72	980.48	985.25	985.32	989.08	994.18	995.60	995.30	994.50	993.83	994.66
7	975.76	975.74	980.78	985.26	985.38	989.62	994.33	995.74	995.28	994.67	993.78	994.66
8	975.75	975.76	980.97	985.29	985.38	990.08	994.41	995.60	995.16	994.65	993.70	994.68
9	975.75	975.77	980.92	985.24	985.38	990.25	994.48	995.53	995.13	994.64	994.38	994.68
10	975.75	975.86	980.64	985.16	985.38	990.40	994.49	995.52	995.16	994.50	994.82	994.69
11	975.75	975.88	980.23	984.94	985.38	990.46	994.64	995.59	995.15	994.44	994.92	994.67
12	975.75	975.90	979.60	984.62	985.38	990.52	994.82	995.56	995.12	994.45	994.85	994.64
13	975.76	976.06	979.10	984.38	985.40	990.56	994.90	995.51	995.08	994.48	994.84	994.60
14	975.76	976.26	978.60	984.16	985.45	990.74	995.01	995.59	995.05	994.49	994.80	994.63
15	975.71	976.48	978.14	983.83	985.45	990.88	995.12	995.60	995.02	994.51	994.88	994.66
16	975.71	976.34	978.83	983.54	985.45	990.98	995.22	995.52	995.00	994.48	994.92	994.74
17	975.74	976.22	979.62	983.10	985.57	991.13	995.30	995.50	994.97	994.41	994.95	994.74
18	975.73	976.22	980.40	982.52	985.71	991.34	995.33	995.58	994.85	994.41	994.92	994.74
19	975.70	976.26	981.78	982.00	985.71	991.42	995.42	995.50	995.10	994.30	994.88	994.72
20	975.74	976.34	981.96	981.22	985.74	991.52	995.48	995.52	995.01	994.33	994.96	994.70
21	975.77	976.59	982.48	979.70	985.79	991.65	995.40	995.49	994.98	994.30	994.88	994.67
22	975.76	978.28	983.10	978.62	985.81	991.86	995.45	995.52	995.06	994.34	994.85	994.70
23	975.77	978.74	983.33	978.95	985.84	992.02	995.40	995.48	994.99	994.24	994.86	994.72
24	975.79	978.50	983.55	980.34	985.86	992.08	995.48	995.51	994.94	994.17	994.84	994.72
25	975.80	979.08	983.58	981.22	985.89	992.14	995.58	995.50	994.93	994.14	994.82	994.68
26	975.79	979.44	983.42	982.02	985.92	992.21	995.44	995.50	994.90	994.10	994.73	994.63
27	975.80	979.59	982.85	982.62	985.94	992.30	995.64	995.46	994.84	994.05	994.76	994.60
28	975.80	979.46	982.30	983.28	985.96	992.54	995.54	995.45	994.80	994.06	994.79	994.61
29	975.79	979.18	981.86	983.92		992.68	995.55	995.42	994.80	993.99	994.75	994.72
30	975.79	979.04	981.29	984.25		992.78	995.56	995.42	994.83	993.89	994.75	994.77
31	975.77		980.98	984.52		992.87	995.38	995.38		993.96	994.70	



## Shenango River at Pymatuning Dam, Pa.

**Location.**— Water-stage recorder 550 feet downstream from Pymatuning Dam, Crawford County, and 1½ miles northwest of Jamestown. Zero of gage is 970.00 feet above mean sea level.

**Drainage area.**— 167 square miles.

**Records available.**— June to September 1934.

**Extremes.**— Maximum discharge during period, 298 second-feet Aug. 9 (gage height, 5.20 feet); minimum, 0.4 second-foot July 2, 3 (gage height, 3.27 feet).

**Remarks.**— Records good. Records include discharge of Sugar Run. Regulation from storage in Pymatuning Reservoir. Corrections for storage not included in records except in part of monthly table. No corrections made for evaporation and seepage losses from reservoir.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									24	0.5	55	1.0
2									24	.4	55	.9
3									24	6.4	38	12.6
4									24	14.9	57	22
5									24	14.9	75	32
6									24	14.0	58	43
7									24	37	58	43
8									24	44	56	24
9									24	44	98	2.5
10									24	44	8.2	13.4
11									24	45	4.0	32
12									15.2	45	2.8	32
13									1.2	45	2.2	46
14									7.7	44	1.8	50
15									24	44	1.5	37
16									23	45	2.0	83
17									22	45	4.3	34
18									21	46	1.8	5.4
19									2.2	46	1.4	3.8
20									18.8	45	1.2	3.1
21									55	45	13.2	2.8
22									56	45	55	2.4
23									55	46	55	2.3
24									55	46	55	29
25									55	46	55	52
26									55	49	55	32
27									55	54	45	1.6
28									49	54	29	1.5
29									27	55	28	7.0
30									.8	55	28	6.4
31										55	11.8	
Month	Observed			Storage (Mean)	Corrected for storage							
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches					
October.....												
November.....												
December.....												
January.....												
February.....												
March.....												
April.....												
May.....												
June.....	56	0.8	28.7	-68.7	-40.0	-0.240	-0.27					
July.....	55	.4	39.4	-81.4	-42.0	-.251	-.29					
August.....	98	1.2	32.6	70.9	104	.623	.72					
September.....	83	.9	21.9	10.8	32.7	.196	.22					
The year.....												

## Shenango River near Jamestown, Pa.

**Location.**— Chain gage at Frye Bridge, 2 miles downstream from Jamestown, Mercer County. Zero of gage is 955.00 feet above mean sea level.

**Drainage area.**— 181 square miles.

**Records available.**— October 1920 to September 1921, October 1931 to May 1934 in reports of U. S. Geological Survey; December 1919 to May 1934 in reports of Pennsylvania Department of Forests and Waters (discontinued).

**Average discharge.**— 13 years (1920-33), 224 second-feet.

**Extremes.**— Maximum discharge during period, 886 second-feet Jan. 1 (gage height, 4.74 feet); minimum, 2.9 second-feet May 21, 24, 26, 29 (gage height, 1.06 feet).

1919-34: Maximum gage height (estimated), 9.6 feet Mar. 13, 1920 (discharge not determined); minimum discharge, 1.3 second-feet Aug. 20, 1923.

Maximum stage known, 14.2 feet Mar. 26, 27, 1913 (discharge not determined).

**Remarks.**— Records fair except those estimated for periods of ice effect, Nov. 16-19, Dec. 11-14, Jan. 28 to Mar. 9, Mar. 28, 29, which are poor. Regulation from storage in Pymatuning Reservoir and from mill operations at Jamestown. Corrections for storage not included in records except in part of monthly table. No corrections made for evaporation and seepage losses from reservoir.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	12	235	641	7	10	40	4.8				
2	7.0	12	211	509	7	15	45	4.8				
3	6.0	11	204	673	6	50	34	5.2				
4	6.0	12	169	478	6	260	170	4.8				
5	6.6	8.8	161	353	6	80	67	4.5				
6	6.0	13	180	346	6	60	47	4.5				
7	6.0	13	187	388	6	40	40	4.0				
8	5.5	19	195	346	5	30	25	4.1				
9	5.2	21	191	333	5	20	19	3.7				
10	5.2	23	173	294	5	14	17	4.3				
11	4.8	22	150	246	5	13	44	4.1				
12	5.0	25	130	294	5	10	46	3.8				
13	5.2	34	120	294	5	20	36	3.8				
14	5.2	40	110	294	5	64	37	4.8				
15	5.0	38	88	270	5	57	38	4.5				
16	5.0	37	103	282	5	32	27	4.3				
17	5.2	38	131	235	5	32	21	3.5				
18	5.8	40	167	246	5	52	16	3.8				
19	6.3	42	200	209	5	34	12	3.8				
20	5.8	47	235	200	5	30	8.8	3.7				
21	6.3	62	282	246	5	41	8.8	3.2				
22	8.8	205	282	161	5	57	13	3.2				
23	10	246	282	176	5	45	10	3.2				
24	10	202	294	46	5	19	9.5	2.9				
25	12	224	282	19	5	11	8.8	3.2				
26	12	282	282	19	4	19	7.0	3.0				
27	12	294	270	13	4	75	7.0	3.2				
28	12	282	307	12	4	80	5.8	3.0				
29	8.8	246	270	11		34	4.5	5.0				
30	12	246	224	10		32	4.7	27				
31	12		213	8		35		27				

Month	Observed			Storage (Mean)	Corrected for storage		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	12	4.8	7.40	0	7.40	0.041	0.06
November.....	294	8.8	93.2	6.79	100	.552	.62
December.....	307	88	204	74.2	278	1.54	1.78
January.....	673	8	246	125	369	2.04	2.35
February.....	7	4	5.21	46.7	51.9	.287	.30
March.....	260	10	44.2	386	430	2.38	2.74
April.....	170	4.5	28.9	277	306	1.69	1.99
May.....	27	2.9	5.44	- 25.5	- 18.1	-.100	-.12
June.....							
July.....							
August.....							
September.....							
The year.....							



## Shenango River at Sharon, Pa.

Location.- Water-stage recorder at Chestnut Street Bridge, at Sharon, Mercer County.  
Zero of gage is 840.00 feet above mean sea level.

Drainage area.- 608 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; August 1909 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 24 years (1910-34), 694 second-feet.

Extremes.- Maximum discharge during year, 5,670 second-feet Mar. 6 (gage height, 9.62 feet); minimum, 7.0 second-feet Oct. 14 (gage height, 1.65 feet).

1909-34: Maximum discharge (estimated), 25,200 second-feet Mar. 26, 1913 (gage height, 18.1 feet); minimum, 6.5 second-feet Sept. 22, 1932 (gage height, 1.63 feet).

Remarks.- Records poor. Discharge estimated for periods of ice effect, Nov. 17, 18, Dec. 13-15, 29-31, Jan. 19, 20, Feb. 1 to Mar. 3, and for periods of missing gage-height record, Dec. 10-13, Jan. 7, 10-16. Regulation from power operations and from storage in Pymatuning Reservoir upstream. Corrections for storage not included in records except in part of monthly table. No corrections made for evaporation and other natural losses from the reservoir.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	26	454	1,040	500	48	716	125	40	42	62	46
2	41	23	424	2,550	400	50	720	116	44	25	71	48
3	35	24	403	1,800	320	100	676	107	44	20	144	36
4	18	27	415	1,640	260	770	1,250	93	43	18	119	29
5	15	31	476	1,280	210	1,880	1,410	88	136	19	62	28
6	12	34	445	1,160	160	3,190	1,070	85	56	18	69	32
7	8.6	33	428	1,100	130	1,800	982	79	47	19	95	35
8	8.2	44	415	1,380	115	1,250	872	73	40	19	62	95
9	24	46	382	1,190	100	955	657	62	34	31	2,640	88
10	25	53	328	1,070	92	730	490	64	30	75	1,530	60
11	19	58	290	928	85	467	480	64	39	50	672	39
12	12	60	240	770	80	374	701	62	59	47	292	35
13	8.3	73	200	631	76	277	716	60	37	58	227	36
14	8.3	105	170	740	73	419	716	64	34	45	179	58
15	17	144	210	706	70	579	770	75	25	36	122	144
16	13	107	263	662	67	613	681	77	20	45	97	224
17	11	95	424	566	65	637	555	69	18	69	73	484
18	9.0	105	449	485	53	716	441	64	23	43	64	265
19	15	120	593	450	61	667	362	58	47	41	58	110
20	15	132	637	460	59	564	302	50	47	58	48	71
21	14	154	1,010	503	57	598	253	46	31	36	39	53
22	20	274	1,130	480	55	745	227	43	23	35	36	45
23	19	657	872	454	53	706	256	41	52	43	36	36
24	23	588	820	667	52	476	253	37	75	41	73	32
25	26	593	795	374	51	415	230	35	64	40	97	53
26	23	652	696	362	49	390	214	38	62	42	93	62
27	30	603	445	354	48	1,070	182	33	69	43	82	69
28	27	536	428	339	47	1,340	144	34	67	48	80	48
29	23	490	400	686		928	154	33	69	50	64	327
30	25	467	370	390		770	139	31	59	80	50	313
31	20		440	574		740		30		75	45	

Month	Observed			Storage	Corrected for storage		
	Maximum	Minimum	Mean	(Mean)	Mean	Per square mile	Run-off in inches
October.....	41	8.2	19.2	C	19.2	0.032	0.04
November.....	657	23	212	6.79	219	.360	.40
December.....	1,130	170	486	74.2	560	.921	1.06
January.....	2,550	339	833	123	956	1.57	1.81
February.....	500	47	121	46.7	168	.276	.29
March.....	3,190	48	783	386	1,169	1.92	2.21
April.....	1,410	139	554	277	831	1.37	1.53
May.....	125	30	62.6	- 27.5	39.1	.064	.07
June.....	136	18	47.8	- 68.7	- 20.9	- .034	- .04
July.....	80	18	42.2	- 81.4	- 39.2	- .064	- .07
August.....	2,640	36	238	70.9	309	.508	.59
September.....	484	28	100	10.8	111	.183	.20
The year.....	3,190	8.2	294	68.8	363	.597	8.09

## Shenango River at New Castle, Pa.

Location.- Chain gage at West Washington Street Bridge, at New Castle, Lawrence County.  
Zero of gage is 787.00 feet above mean sea level.

Drainage area.- 792 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; January 1910 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 24 years (1910-34), 881 second-feet.

Extremes.- Maximum discharge during year, 4,930 second-feet Aug. 9 (gage height, 6.2 feet, from graph based on gage readings); minimum, 13 second-feet July 6 (gage height, 0.52 foot).

1910-34: Maximum discharge (estimated), 39,800 second-feet Mar. 26, 1913 (gage height, 17.82 feet); minimum, 6.0 second-feet Aug. 14, 1930.

Remarks.- Records poor. Discharge estimated for periods of faulty gage-height record, Nov. 9-12, Dec. 8, Sept. 15-21, and for periods of ice effect, Dec. 30, 31, Feb. 2 to Mar. 5, Mar. 8, 9, 13, 14. Regulation from storage in Pymatuning Reservoir and from power and diversion operations upstream. Water supply for city of New Castle diverted above station and corrections for storage not included in records except in part of monthly table. No corrections made for evaporation and other natural losses from Pymatuning Reservoir. Record of monthly diversion furnished by City of New Castle Water Co.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	25	465	558	658	56	830	122	36	63	100	74
2	28	22	407	1,460	540	60	830	114	31	52	60	69
3	40	23	496	1,470	400	100	755	109	30	33	114	57
4	41	20	402	1,740	300	600	1,080	105	40	32	136	53
5	33	23	436	1,540	230	1,700	1,030	112	44	21	96	46
6	26	26	407	1,150	200	3,000	1,450	105	120	14	74	48
7	25	35	390	1,150	170	2,520	1,160	100	83	18	60	53
8	21	36	370	1,240	140	1,900	990	87	49	15	64	41
9	24	37	358	1,440	120	1,300	830	85	57	21	2,550	111
10	18	40	331	1,150	102	910	589	68	49	20	3,640	122
11	14	48	358	1,060	95	755	620	73	34	44	1,280	105
12	18	53	262	730	89	558	620	68	28	64	690	83
13	20	77	212	694	85	480	755	63	27	56	383	68
14	18	88	172	694	81	510	755	58	50	64	288	52
15	18	154	196	730	78	558	755	68	29	54	213	140
16	18	95	276	624	75	620	685	63	25	49	213	320
17	20	97	465	590	72	620	685	66	26	46	162	600
18	21	102	407	590	69	652	620	69	23	57	133	410
19	28	99	465	436	66	755	529	63	29	60	114	310
20	38	110	590	526	64	620	383	63	18	62	89	240
21	33	124	768	526	62	620	339	46	21	112	85	160
22	28	150	1,340	496	60	620	339	53	44	60	83	105
23	22	336	1,850	436	58	589	284	52	43	43	114	87
24	20	558	1,240	465	59	589	297	42	49	38	114	68
25	24	558	768	496	56	620	270	42	73	50	149	74
26	22	624	658	385	55	445	197	41	62	44	156	69
27	23	590	526	380	55	1,040	213	44	100	40	117	102
28	25	590	436	363	54	2,410	185	39	98	43	107	96
29	25	558	407	331		1,970	169	32	74	49	122	181
30	26	436	390	684		910	166	34	62	74	91	162
31	23		500	590		830		36		173	76	

Month	Observed			Storage and Diversion (Mean)	Corrected for diversion and storage		
	Maximum	Minimum	Mean		Mean	Per square mile	Run-off in inches
October.....	41	14	24.7	6.8	31.5	0.040	0.05
November.....	624	20	191	13.6	205	.259	.29
December.....	1,850	172	527	80.9	608	.768	.89
January.....	1,740	331	798	130	928	1.17	1.35
February.....	658	54	146	54.1	200	.253	.26
March.....	3,000	56	933	394	1,327	1.68	1.94
April.....	1,450	166	614	284	898	1.13	1.26
May.....	122	32	68.5	- 16.3	52.2	.066	.08
June.....	120	18	48.6	- 60.6	- 12.0	-.015	-.02
July.....	173	14	50.6	- 74.1	- 23.5	-.030	-.03
August.....	3,640	60	377	77.9	455	.574	.66
September.....	600	41	137	17.6	155	.196	.22
The year.....	3,640	14	329	75.9	405	.511	6.95



## Sugar Run at Pymatuning Dam, Pa.

Location.- Staff gage at highway bridge at Pymatuning Dam, Crawford County, a quarter of a mile above mouth, and 1 3/4 miles northwest of Jamestown. Zero of gage is 984.59 feet above mean sea level.  
Drainage area.- 9.34 square miles.  
Records available.- March to September 1934.  
Extremes.- Maximum discharge during period, about 220 second-feet Aug. 11 (gage height, 2.44 feet); no flow at times during summer months.  
Remarks.- Records good.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							10.7	1.3	0.4	0	0	0.1
2							9.9	1.3	.3	0	0	.2
3							8.7	1.1	.3	0	0	.1
4							68	1.1	.2	0	0	.1
5							17.9	1.1	.2	0	0	
6							12.2	1.1	.2	0	0	0
7							9.9	1.0	.2	0	0	0
8							6.5	.9	.2	0	0	.5
9						16.4	4.7	.9	.1	0	51	.7
10						8.1	4.1	.9	.2	0	6.3	.4
11						4.5	10.7	1.0	.2	0	1.7	.2
12						2.6	13.2	.8	.2	0	.9	.2
13						12.9	9.3	.8	.1	0	.8	.2
14						45	10.7	1.2	.1	0	.6	9.1
15						17.3	8.1	1.3	.1	0	.4	14.2
16						18.5	6.5	1.0	.1	0	.6	21
17						13.3	5.1	.9	0	0	.8	8.8
18						13.4	4.1	.8	0	0	.5	2.5
19						5.2	3.4	.7	.6	0	.4	1.4
20						5.4	2.9	.6	.4	0	.2	1.1
21						24	2.6	.6	.2	0	.2	.9
22						19.8	2.6	.6	.2	0	.2	.8
23						6.5	3.4	.6	.2	0	.2	.7
24						3.7	3.1	.6	.2	0	.4	.6
25						3.6	2.9	.6	.1	0	1.0	.5
26						6.6	2.4	.6	.1	0	.4	.5
27						26	2.4	.5	.1	0	.3	.4
28						30	2.3	.4	0	0	.4	.4
29						8.2	1.9	.4	0	0	.3	5.3
30						8.7	1.4	.4	0	0	.2	3.6
31						9.3		.4		0	.2	
Month						Maximum	Minimum	Mean	Per square mile		Run-off in inches	
October.....												
November.....												
December.....												
January.....												
February.....												
March..... 9-31						45	2.6	13.4	1.45		1.22	
April.....						68	1.4	8.39	.808		.90	
May.....						1.3	.4	.82	.088		.10	
June.....						0.6	0	.17	.018		.02	
July.....						0	0	0	0		0	
August.....						51	0	2.19	.234		.27	
September.....						21	0	2.49	.267		.30	
The year.....												

## Little Shenango River at Greenville, Pa.

Location.- Water-stage recorder 1,500 feet downstream from Williamson Crossing Bridge, 1 mile northeast of Greenville, Mercer County, and 2 miles upstream from mouth. Chain gage at a site 1 mile downstream used prior to June 21, 1934.  
Drainage area.- 104 square miles (105 square miles at former site).  
Records available.- November 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; January 1914 to August 1923, November 1925 to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
Average discharge.- 14 years (1914-18, 1920-22, 1926-34), 139 second-feet.  
Extremes.- Maximum discharge during year, 1,440 second-feet Jan. 2; maximum gage height, 4.65 feet Mar. 4 (affected by ice); minimum discharge, 2.9 second-feet July 31 (gage height, 0.58 foot).  
 1919-23, 1925-34: Maximum discharge, 3,220 second-feet Dec. 1, 1927, May 3, 1929; maximum gage height, 9.60 feet Feb. 26, 1926 (affected by ice); minimum discharge, 2.0 second-feet Aug. 21, 1923.  
Remarks.- Records fair except those estimated for periods of ice effect, Dec. 28-31, Jan. 18-21, Jan. 31 to Mar. 4, which are poor. Some regulation at low stages from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	8.5	64	900	270	21	201	46	9.6	8.8	3.1	7.2
2	6.8	11	49	1,230	180	25	207	42	9.6	9.5	3.6	7.5
3	6.5	8.5	66	517	130	400	196	44	9.6	8.4	11	7.5
4	5.8	7.3	127	154	90	1,100	401	37	8.5	6.9	13	7.2
5	5.4	7.3	137	140	70	1,160	508	33	27	7.2	7.6	6.9
6	5.4	11	105	219	58	658	223	29	22	7.5	5.7	10
7	5.4	12	82	287	50	287	193	28	17	7.2	4.8	7.6
8	5.0	20	66	397	45	248	179	25	10	7.8	4.6	17
9	5.8	18	59	262	41	213	118	23	8.5	7.8	372	12
10	5.0	13	48	219	37	130	98	21	15	7.5	372	9.2
11	5.0	12	37	144	34	111	140	16	13	6.9	77	7.2
12	7.0	19	32	116	32	96	210	13	11	6.9	37	7.2
13	7.6	32	30	114	31	77	179	13	11	7.5	25	8.9
14	6.5	71	29	120	30	144	201	27	9.0	7.2	21	12
15	6.8	43	44	125	29	144	232	30	7.9	6.9	21	31
16	6.5	34	179	111	28	144	179	32	7.3	6.4	22	145
17	6.8	28	130	96	27	187	137	25	6.8	4.5	21	152
18	7.0	29	168	76	26	134	111	21	6.3	4.9	15	61
19	6.8	43	109	73	25	116	90	19	9.0	5.0	14	36
20	10	50	118	72	24	120	77	17	8.5	4.8	12	28
21	9.6	73	207	74	24	173	73	14	8.9	4.8	16	20
22	13	257	248	84	23	273	71	13	33	4.8	11	18
23	18	180	152	162	22	109	78	13	16	4.2	11	43
24	22	78	120	142	22	60	84	13	12	4.0	14	49
25	17	75	160	118	21	64	73	13	8.5	4.8	15	25
26	13	66	107	132	21	80	71	13	8.1	3.6	11	18
27	9.6	86	67	103	20	433	60	13	10	3.8	10	16
28	8.2	77	60	137	20	418	60	11	16	3.6	9.7	14
29	7.9	86	54	397		219	54	10	11	3.6	9.7	40
30	7.6	77	50	462		196	49	12	8.1	3.2	8.5	118
31	7.3		70	350		198		10		3.1	7.5	
Month					Maximum	Minimum	Mean	Per square mile	Run-off in inches			
October.....					22	5.0	8.44	0.080	0.09			
November.....					257	7.3	51.1	.487	.54			
December.....					248	29	95.6	.910	1.05			
January.....					1,230	72	245	2.33	2.69			
February.....					270	20	51.1	.437	.51			
March.....					1,160	21	250	2.38	2.74			
April.....					508	49	143	1.41	1.57			
May.....					46	10	21.8	.208	.24			
June.....					33	6.3	11.9	.114	.13			
July.....					9.5	3.1	5.91	.057	.07			
August.....					372	3.1	38.3	.368	.42			
September.....					152	6.9	31.4	.302	.34			
The year.....					1,230	3.1	80.3	.767	10.39			



Pymatuning Creek near Orangeville, Pa.

Location.- Water-stage recorder 2 miles upstream from confluence with Shenango River, 3 miles southeast of Orangeville, Mercer County, and 3 miles north of Sharpsville. Chain gage at a site 1,500 feet downstream with datum 0.62 foot higher used prior to June 19.

Drainage area.- 169 square miles.

Records available.- October 1918 to September 1921, October 1931 to September 1934  
in reports of U. S. Geological Survey; January 1914 to August 1923, November 1925  
to September 1934 in reports of Pennsylvania Department of Forests and Waters.  
Average discharge - 16 years (1914-22, 1926-34), 208 second-feet.

Extremes.—Maximum gage height recorded during year, 7.60 feet Mar. 6 (discharge not determined because of ice; minimum, 0.9 second-foot Oct. 7, 11 (gage height, 0.43 foot).

1914-23, 1925-34: Maximum gage height (estimated), 8.9 feet Mar. 13, 1920 (discharge not determined); minimum discharge, 0.5 second-foot Sept. 25, 1933. Maximum stage known, about 15.8 feet, at former site, Mar. 26, 1913 (discharge not determined).

Remarks.- Records fair except those estimated for periods of ice effect, Nov. 16, 17, Dec. 12-15, Dec. 27 to Jan. 1, Jan. 18-21, Jan. 31 to Mar. 9, which are poor. Some diurnal regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	4.8	56	65	130	16	198	28	5.2	2.0	1.5	4.6
2	6.7	5.5	64	299	100	18	188	25	4.9	1.8	3.2	4.7
3	2.4	5.9	69	500	75	60	198	22	4.2	1.8	4.9	3.9
4	1.1	5.5	64	695	50	400	360	21	3.8	2.0	1.6	3.5
5	1.0	7.2	59	500	40	1,000	385	20	3.5	2.0	1.5	3.3
6	1.0	11	65	335	36	1,300	440	18	5.2	2.0	1.5	3.1
7	1.0	9.6	81	198	32	910	500	17	3.8	1.8	1.5	3.1
8	1.0	12	81	198	29	760	410	14	2.7	2.1	1.8	9.6
9	1.0	11	65	219	27	620	219	14	3.1	1.8	474	7.1
10	1.0	12	40	198	26	530	118	16	2.8	1.8	213	5.5
11	1.0	14	33	168	25	206	126	14	3.1	1.8	131	5.8
12	1.1	17	23	118	24	157	178	14	2.7	1.8	100	6.9
13	1.1	20	15	102	23	68	198	14	2.7	1.8	110	7.4
14	6.1	22	11	95	22	142	230	18	2.4	2.4	89	6.6
15	2.3	28	16	88	21	168	208	20	2.4	2.0	58	7.0
16	1.3	24	29	95	20	188	178	18	2.2	1.6	40	21
17	1.7	23	48	73	19	188	142	18	2.2	1.5	25	24
18	2.0	24	88	68	19	198	118	17	2.5	2.1	18	18
19	2.0	26	142	66	18	198	95	16	6.0	1.5	16	14
20	2.0	28	159	70	18	159	78	14	4.1	2.1	14	14
21	2.0	29	159	60	17	159	63	11	3.7	2.0	11	12
22	2.8	34	168	42	17	208	54	9.6	4.5	1.6	8.5	9.6
23	3.8	63	138	67	16	241	50	9.1	6.9	1.8	6.9	7.8
24	2.7	134	188	81	16	188	51	8.6	5.0	1.6	8.2	6.0
25	2.8	150	150	81	16	159	54	9.1	3.9	2.0	9.2	5.0
26	3.1	142	95	88	15	102	49	7.6	3.5	2.0	6.9	4.3
27	2.7	102	72	88	15	232	48	7.6	3.5	2.2	5.8	4.3
28	3.5	69	60	121	15	263	41	6.7	3.3	2.1	6.0	5.2
29	3.9	63	45	389		252	33	7.2	3.1	2.0	5.5	28
30	4.2	55	37	385		252	31	6.7	2.4	3.0	4.7	36
31	4.5		33	250		219		5.5		2.1	4.3	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October.....					8.6	1.0	2.62	0.016		0.02		
November.....					150	4.8	38.6	.228		.25		
December.....					188	11	77.5	.459		.53		
January.....					695	42	187	1.11		1.28		
February.....					130	15	31.5	.186		.19		
March.....					1,300	16	308	1.82		2.10		
April.....					500	31	168	.994		1.11		
May.....					28	5.6	14.4	.085		.10		
June.....					6.9	2.2	3.64	.022		.02		
July.....					3.0	1.5	1.94	.011		.01		
August.....					474	1.5	44.6	.264		.30		
September.....					36	3.1	9.71	.067		.06		
The year.....					1,300	1.0	74.6	.441		5.97		

Connoquenessing Creek at Hazen, Pa.

Location.- Chain gage at highway bridge at Hazen, Beaver County, half a mile upstream from mouth of Brush Creek.

Drainage area.- 356 square miles.

Records available.- October 1919 to September 1921, October 1931 to September 1934 in reports of U. S. Geological Survey; June 1915 to September 1934 in reports of Pennsylvania Department of Forests and Waters.

Average discharge.- 15 years (1919-34), 477 second-feet.

Average discharge.- 15 years (1919-34), 477 second-feet.  
Extremes.- Maximum discharge during year, 6,520 second-feet Aug. 9 (gage height, 9.38 feet); minimum, 8.6 second-foot July 30 (gage height, 0.84 foot).

1915-34: Maximum gage height, 16.66 feet June 29, 1924 (discharge not determined); minimum discharge, 6.6 second-feet Sept. 12, 1932 (gage height, 0.84 foot).

Remarks.- Records fair. Discharge estimated for periods of ice effect, Nov. 15-20, Dec. 11-15, 29-31, Jan. 30 to Mar. 2, Mar. 10-12, and for Jan. 20. Some regulation from operation of mills upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	12	30	788	230	70	791	99	27	25	130	68
2	14	13	30	860	200	80	659	94	26	22	56	72
3	13	14	30	566	170	3,920	566	85	23	23	428	57
4	12	33	33	422	150	3,640	2,790	83	21	25	250	47
5	12	21	39	396	130	1,780	2,680	79	17	26	133	40
6	12	25	46	507	118	1,000	1,610	70	14	28	68	39
7	11	40	39	1,660	108	628	1,300	64	16	32	42	40
8	12	41	36	2,370	99	412	930	60	16	56	32	42
9	12	36	30	1,300	91	318	724	57	14	36	2,800	60
10	12	29	28	860	84	290	551	58	15	28	2,020	42
11	12	26	27	566	82	270	989	111	15	22	655	37
12	11	26	26	422	81	250	1,000	83	14	32	470	34
13	16	32	26	366	80	237	826	63	13	173	390	51
14	14	41	25	422	83	628	724	66	14	122	340	214
15	12	36	27	327	85	391	628	104	13	94	230	318
16	12	31	53	282	83	417	596	97	12	53	440	320
17	12	29	189	241	81	356	507	79	13	37	390	690
18	10	27	300	178	79	478	422	61	13	36	272	390
19	10	27	226	210	77	351	375	56	36	34	192	295
20	11	30	305	222	75	422	322	48	68	29	210	168
21	16	42	843	233	73	422	287	43	36	40	192	128
22	16	45	566	241	71	412	270	49	28	21	128	102
23	16	46	332	196	70	327	258	45	26	17	458	78
24	18	36	274	210	69	278	241	47	25	15	502	70
25	21	33	249	168	68	258	210	42	23	13	365	63
26	19	30	222	145	67	262	171	39	22	12	295	57
27	17	37	185	122	66	1,880	152	36	36	11	210	56
28	16	36	155	160	66	2,020	136	32	61	11	166	85
29	14	36	142	393		1,070	120	29	40	9.8	132	298
30	12	32	139	300		895	106	27	35	14	95	865
31	12		180	250		826		26		646	85	
Month					Maximum	Minimum	Mean	Per square mile		Run-off in inches		
October					21	10	13.6	0.038		0.04		
November					46	12	31.4	.088		.10		
December					843	25	166	.438		.50		
January					2,370	122	497	1.40		1.61		
February					230	66	97.7	.274		.28		
March					3,920	70	793	2.23		2.57		
April					2,790	106	698	1.96		2.19		
May					111	26	62.3	.175		.20		
June					68	12	24.4	.069		.08		
July					646	9.8	56.2	.158		.18		
August					2,800	32	393	1.10		1.27		
September					865	34	161	.452		.50		
The year					3,920	9.8	250	.702		9.52		



## Slippery Rock Creek at Wurtensburg, Pa.

**Location.**- Chain gage at highway bridge at Wurtensburg, Lawrence County, 1 mile up-stream from mouth. Zero of gage is 812.48 feet above mean sea level.

**Drainage area.**- 406 square miles.

**Records available.**- October 1918 to September 1920, October 1931 to September 1934 in reports of U. S. Geological Survey, January 1912 to September 1934 in reports of Pennsylvania Department of Forests and Waters. Records prior to October 1922 obtained at a site half a mile upstream.

**Average discharge.**- 21 years (1912-32, 1933-34), 548 second-feet.

**Extremes.**- Maximum gage height during year, 10.38 feet Aug. 9 (discharge not determined); minimum discharge, 17 second-feet July 24, 26 (gage height, 1.98 feet); minimum daily discharge, 21 second-feet July 24.

1912-34: Maximum gage height (estimated), 11.8 feet at present gage Dec. 14, 1927 (discharge not determined); minimum discharge, 11 second-feet Sept. 8, 1925; minimum daily discharge, 16 second-feet Sept. 8, 1925.

**Remarks.**- Records fair. Discharge estimated for periods of ice effect, Nov. 15-19, Dec. 12-14, 28-31, Jan. 31 to Mar. 2, and for Sept. 16. Regulation from power operations upstream.

Daily and monthly discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	49	83	740	230	61	518	143	48	89	372	109
2	39	49	98	1,110	200	75	518	133	49	72	126	91
3	61	48	83	677	170	1,380	472	128	56	59	416	83
4	49	48	136	567	150	3,260	1,270	112	49	61	319	74
5	36	51	249	351	130	2,610	1,390	107	98	80	202	46
6	37	61	193	351	118	1,490	950	107	52	140	131	34
7	34	65	153	784	108	804	708	98	52	148	96	52
8	29	74	126	1,490	97	495	542	93	39	124	78	70
9	29	91	114	1,030	87	333	450	91	51	96	7,000	59
10	32	76	98	620	94	234	351	87	46	66	4,600	63
11	38	74	65	472	82	207	784	156	51	61	1,440	70
12	34	85	57	351	80	216	950	146	59	138	840	63
13	31	83	49	298	79	265	758	109	61	156	677	148
14	34	136	45	333	80	370	648	121	44	174	542	196
15	29	110	42	298	82	472	648	131	39	112	370	119
16	39	96	292	265	79	542	567	112	37	83	370	219
17	32	85	666	249	76	495	472	96	36	57	429	190
18	32	75	573	234	74	450	389	89	34	42	315	168
19	38	66	429	202	72	495	333	89	52	39	265	150
20	35	59	351	179	70	472	315	89	98	45	265	121
21	38	128	1,000	163	68	429	281	61	91	65	185	112
22	49	121	799	135	66	429	249	70	66	48	174	93
23	51	131	450	249	64	429	281	68	93	25	219	80
24	52	119	333	298	63	409	281	68	102	21	265	68
25	41	96	333	249	62	333	265	66	72	30	351	56
26	44	98	298	210	61	252	249	57	76	23	249	44
27	42	91	219	185	60	1,710	234	56	568	31	179	72
28	41	93	200	207	60	1,730	179	59	450	29	156	76
29	31	83	190	265		900	166	54	207	29	160	252
30	41	74	185	315		677	158	56	140	43	133	648
31	44		400	250		567		70		694	105	

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	61	29	38.9	0.096	0.11
November	136	48	83.3	.206	.23
December	1,000	42	268	.660	.76
January	1,490	163	425	1.05	1.21
February	230	60	94.7	.233	.24
March	3,260	61	729	1.80	2.08
April	1,390	158	512	1.26	1.47
May	156	54	94.3	.232	.27
June	568	34	97.2	.239	.27
July	694	21	92.8	.229	.26
August	7,000	78	678	1.67	1.92
September	648	34	121	.298	.33
The year	7,000	21	272	.670	9.09

## Miscellaneous Discharge Measurements

Stream	Location	Date	Gage height	Discharge	Drainage area	Per square mile
Delaware River Basin	One mile above mouth at Allentown	Sept. 4	1.10	64.2	86.2	0.728
Little Lehigh Creek	Two miles above mouth near Allentown	Oct. 26	....	6.67	79.9	0.083
Jordan Creek	At New Street Bridge, Bethlehem	Mar. 23	....	66.9	49.6	1.35
Monocacy Creek	do	Apr. 18	....	59.0	49.6	1.19
do	do	July 11	1.05	83.8	49.6	1.69
Lehigh Canal	At Freemansburg	Sept. 5	1.09	2.31	....	....
do	do	Sept. 6	1.18	2.55	....	....
Durham Furnace	At Durham Furnace	Sept. 6	....	8.69	28.5	.311
Callows Run	At Kintnersville	Oct. 6	....	9.17	28.5	.311
Tohickon Creek	Three-fourths mile below junction with Haycock Creek near Ottaville	Oct. 19	....	.45	9.1	.049
Mill Creek	At highway bridge one mile west of Stanton, Del.	Oct. 19	1.06	2.11	74.5	.028
Leipsic River	At highway bridge 2 1/2 miles west of Cheswold, Del.	Oct. 20	1.40	9.40	12.5	.764
Murderkill River	At highway bridge 2.2 miles south of Felton, Del.	Oct. 20	1.05	10.8	9.21	1.17
Susquehanna River Basin	At Williamsburg	Mar. 17	....	8.19	14.4	.569
Big Spring Run	do	June 9	....	1.06	....	....
Upper Little Sautara Creek	At highway bridge 3/4 mile southeast of Pine Grove	Oct. 5	....	1.02	....	....
do	do	Oct. 13	1.57	22.0	34.5	.641
do	do	Dec. 15	1.57	12.7	34.5	.370
do	do	Feb. 2	2.12	21.2	34.5	.618
do	do	Apr. 2	2.79	176	34.5	5.13
do	do	June 20	2.55	131	34.5	3.82
do	do	Aug. 13	2.00	65.4	34.5	1.91
do	do	Oct. 13	1.77	42.0	34.5	1.22
do	do	Nov. 24	1.76	39.8	34.5	1.16
do	do	Nov. 27	1.29	7.97	34.5	.232
Ohio River Basin	At Main Street Bridge, Carnegie	Nov. 27	.95	31.5	264	.119
Chartiers Creek	do	Feb. 16	.87	32.1	264	.122
do	do	Apr. 12	1.14	96.3	264	.365
do	do	May 28	2.41	649	264	2.46
do	do	Aug. 10	2.36	637	264	2.41
do	do	Aug. 10	.96	52.6	264	.199
do	do	Aug. 10	.96	39.0	264	.148
do	do	Aug. 10	.96	37.3	264	.141



Summary of run-off in second-foot per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1934

Station	Drainage area Square miles	Run-off in second-foot per square mile												Run-off inches	Pre- cipita- tion inches	Per cent
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
Delaware River at Port Jervis, N.Y.	3,076	1.05	1.02	1.18	2.13	0.843	2.10	3.87	1.63	0.754	0.682	0.468	1.59	20.34	39.36	51.7
Delaware River at Belvidere, N.J.	4,540	1.15	1.01	1.13	2.18	.725	2.05	3.99	1.74	.893	.670	.497	1.59	19.40	40.27	48.2
Delaware River at Hightstown, N.J.	6,340	1.15	1.01	1.13	2.18	.725	2.05	3.99	1.74	.893	.670	.497	1.59	19.40	40.27	48.2
Delaware River at Trenton, N.J.	6,800	1.00	1.08	1.12	2.25	.663	1.92	3.80	1.75	.914	.676	.528	1.69	20.39	40.96	49.3
Lackawanna River at West Hazlet	228	1.00	.379	.759	2.22	.019	1.16	3.50	1.40	.461	.566	.074	1.18	20.17	43.53	46.3
Wallenpack Creek at Wilsonville	117	1.08	.807	.915	2.52	.339	1.73	4.48	2.23	1.31	.476	.276	1.29	13.99	37.82	37.2
Bushkill Creek at Shoenakers	64.4	1.34	.829	.720	2.05	.492	1.52	3.45	2.38	1.41	.811	.461	1.68	20.92	41.58	50.3
McMichael Creek at Stroudsburg	322	1.80	1.31	1.21	2.44	.472	1.57	4.16	1.88	1.05	.661	.561	1.79	19.41	43.97	44.1
Lehigh River at Tannersville	1,280	1.95	1.04	.909	2.22	.522	1.55	3.53	1.99	1.36	.781	.590	1.83	19.62	42.14	46.6
Lehigh River at Bethlehem	1,354	.869	.244	.834	1.93	.191	1.92	1.76	1.28	.584	.151	.230	4.87	16.86	45.57	37.0
Neshaminy Creek at Rushland	1,147	.968	.868	.801	2.08	.471	1.70	3.43	1.56	.945	.103	.668	2.17	18.53	40.82	45.4
Schuylkill River at Pottstown	1,893	.876	.856	.836	2.11	.476	1.91	3.05	1.54	.836	.871	.397	1.50	17.51	40.97	43.0
Schuylkill River at Philadelphia	1,893	1.59	1.01	.885	2.25	.828	1.28	4.15	1.77	.953	.599	.397	1.22	19.02	41.62	43.7
Little Schuylkill River at Tamaqua	42.9	.513	.316	.405	2.37	.287	2.82	2.44	1.45	.699	.602	.209	3.11	17.28	41.89	41.3
Perkiomen Creek at Graters Ford	33.3	1.32	.925	.925	1.67	.697	2.17	2.07	2.00	1.33	.817	.709	1.27	17.50	40.56	43.1
Crum Creek at Woodlyn	31.9	1.23	.972	.837	1.68	.699	2.53	1.86	1.79	1.07	.809	.646	1.10	17.41	43.83	39.7
Ridley Creek at Moylan	61.1	1.87	.830	.854	1.50	.700	2.26	1.85	1.59	1.07	.750	.613	1.10	15.74	43.76	36.0
Chester Creek near Chester	87.8	.959	.722	.740	1.36	.597	2.39	1.78	1.30	1.08	.572	.728	.863	14.79	41.14	36.0
White Clay Creek near Newark, Del.	287	1.24	.955	.850	1.61	.746	2.30	2.11	1.64	1.24	1.04	.742	1.12	17.70	44.10	40.1
Brandywine Creek at Chadds Ford																

Summary of run-off in second-foot per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1934

Station	Drainage area Square miles	Run-off in second-foot per square mile												Run-off inches	Pre- cipita- tion inches	Per cent
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
North Branch of Susquehanna River at Towanda	7,797	0.567	0.823	1.13	1.62	0.376	1.98	2.99	0.528	0.471	0.150	0.130	0.573	12.85	32.91	32.0
North Branch of Susquehanna River at North Wilkes-Barre	9,960	.614	.835	1.19	1.76	.390	2.09	3.25	.652	.443	.206	.166	.706	13.95	33.40	41.8
North Branch of Susquehanna River at North Danville	11,220	.622	.794	1.13	1.74	.374	1.88	3.33	.712	.451	.218	.176	.782	13.84	34.12	40.5
Susquehanna River at Harrisburg	24,100	.500	.602	.943	1.71	.414	1.47	3.09	.715	.418	.213	.216	.894	12.68	34.94	36.3
Susquehanna River at Marietta	25,990	.538	.618	.920	1.71	.413	1.42	2.96	.771	.455	.229	.264	1.03	12.82	35.47	36.1
Towanda Creek near Monticello	214	.491	.771	1.24	1.84	.258	1.34	3.49	.514	.189	.042	.031	.916	12.40	33.05	37.5
Tunkhannock Creek at Dixon	383	.760	.830	.820	1.14	.279	1.55	3.28	.799	.258	.266	.407	2.02	14.10	37.59	37.5
West Branch of Susquehanna River at West Branch	458	1.13	.945	.795	1.91	.913	1.79	3.08	1.32	.526	.367	.231	1.15	15.56	44.30	35.1
West Branch of Susquehanna River at Bower	315	.116	.533	2.45	2.42	.381	1.94	2.43	.441	.473	.217	.511	.990	14.69	42.83	34.3
West Branch of Susquehanna River at Renovo	2,975	.164	.443	1.45	2.04	.362	1.43	2.92	.526	.382	.159	.226	.272	11.77	35.98	32.7
West Branch of Susquehanna River at Williamsport	5,682	.308	.553	1.36	2.13	.414	1.45	3.34	.488	.358	.171	.181	.543	12.82	34.86	36.8
Clearfield Creek at Dimeling	371	.149	.337	1.78	2.29	.278	1.64	2.40	.383	.491	.207	.245	.787	12.61	36.55	34.5
Driftwood Creek at Simmesburg	281	.079	.409	1.16	2.05	.549	1.65	3.27	.466	.313	.083	.177	.831	11.48	36.94	30.9
North Bald Eagle Creek at Milesburg	119	.200	.351	1.23	1.81	.285	1.82	3.85	.276	.313	.182	.243	.831	11.48	36.94	30.9
North Bald Eagle Creek at Beech Creek	559	.410	.501	1.03	1.66	.440	1.17	2.87	.580	.547	.442	.599	.737	12.19	34.95	34.9
Pine Creek at Cedar Run	604	.291	.651	1.24	1.59	.390	1.64	2.97	.616	.267	.114	.143	.898	11.54	32.94	35.0
Lycoming Creek near Trout Run	173	.568	.936	1.38	1.96	.397	1.27	4.13	.601	.285	.100	.094	.832	14.16	34.06	41.8
Loyalsock Creek at Loyalsock	443	.777	.977	1.35	2.11	.456	1.29	4.37	.916	.406	.113	.109	1.50	16.26	36.79	44.2
Penn Creek at Penns Creek	301	.165	.442	.588	1.54	.648	1.30	3.17	.884	.568	.395	.111	1.29	15.07	36.74	41.0
Mahantango Creek East near Dalmatia	162	.348	.531	.457	1.67	.355	1.23	2.73	.944	.423	.119	.172	1.25	11.76	39.71	29.6
Frankstown Branch Juniata River at Williamsburg	291	.267	.320	.976	1.90	.396	1.31	1.61	.436	.361	.223	.274	1.16	10.38	35.02	29.6
Juniata River at Newport	3,354	.302	.267	.560	1.66	.281	1.06	1.97	.506	.356	.201	.250	1.19	9.75	34.16	28.5
Shaver Creek near Petersburg	46.4	.167	.204	.552	1.81	.185	1.42	2.52	.448	.312	.133	.155	.677	7.18	35.38	27.6
Standing Stone Creek near Huntingdon	128	.294	.307	.602	1.48	.281	1.28	2.54	.501	.405	.195	.170	.552	9.53	35.94	26.5
Raystown Branch of Juniata River at Saxton	756	.226	.243	.563	1.75	.183	1.10	1.66	.353	.321	.149	.251	.620	8.43	32.81	25.7
Dunning Creek at Yount	191	.114	.202	.838	2.27	.259	1.60	1.74	.227	.250	.164	.291	.932	10.21	34.66	29.5
Brush Creek at Gapville	368	.467	.405	.647	2.15	.269	1.21	2.17	.500	.872	.143	.148	1.45	10.80	32.19	36.7
Brush Trough Creek near Marklesburg	848	.105	.102	.249	1.19	.119	.937	2.02	.465	.345	.152	.115	.907	7.51	32.48	23.1
Aghwiora Creek near Ohiowa	174	.353	.233	.494	1.96	.284	1.20	2.02	.465	.382	.110	.132	1.84	7.93	10.76	37.09
Tuscarora Creek near Fort Royal	214	.321	.221	.345	1.37	.269	1.02	2.00	.561	.313	.129	.132	1.67	9.45	33.50	28.2
Cocleamus Creek near Millertown	572	.327	.259	.538	2.06	.315	1.37	2.06	.710	.257	.161	.540	2.74	12.86	35.59	36.1
Sherman Creek at Shermantown	200	.550	.578	.416	1.46	.358	1.24	2.54	1.38	.625	.296	.296	1.86	12.86	37.72	34.1
Conodoguinet Creek near Hogestown	470	.823	.502	.489	1.50	.398	1.24	1.66	.821	.506	.355	.474	1.99	11.82	39.85	29.7



Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1934

## Susquehanna River Basin (Continued)

Station	Drainage area Square miles	Run-off in second-feet per square mile												Run-off Depth in inches	Precipitation Depth in inches	Per cent run-off to precipitation
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
Sutara Creek at Harper Tavern.....	333	0.865	0.450	0.480	1.93	0.562	1.62	3.60	1.28	0.712	0.300	0.402	1.88	15.93	40.04	39.8
West Conango Creek near Manchester....	510	.433	.251	.273	1.23	.169	1.30	1.56	.714	.369	.298	.990	4.67	13.85	43.55	31.8
Codorus Creek at Spring Grove.....	74.3	.756	.416	.402	.833	.592	1.24	1.48	1.05	.420	.491	.843	5.71	15.79	44.03	35.9
South Branch of Codorus Creek near York.....	117	.983	.563	.559	.932	.522	1.30	1.52	1.37	.727	.566	.889	3.21	14.85	43.74	34.0
Conestoga Creek at Lancaster.....	322	.832	.540	.468	1.32	.568	1.70	2.64	1.50	.919	1.76	.705	2.13	17.11	45.34	37.7
Muddy Creek at Castle Pin.....	133	.687	.595	.493	1.06	.587	1.67	1.74	1.87	.962	.985	1.40	1.81	15.94	40.69	39.2

Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1934

## Ohio River Basin

Station	Drainage area Square miles	Run-off in second-feet per square mile												Run-off Depth in inches	Precipitation Depth in inches	Per cent run-off to precipitation
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
Allegheny River at Larabee.....	541	0.183	0.367	1.91	2.49	0.351	1.85	3.03	0.529	0.182	0.063	0.084	0.154	13.28	33.50	39.6
Allegheny River at Franklin.....	5,983	.179	1.20	2.31	2.76	.510	2.63	2.88	.474	.185	.083	.107	.137	15.53	32.91	47.2
Allegheny River at Parkers Landing.....	7,671	.200	.966	2.05	2.56	.494	2.61	2.73	.471	.197	.139	.135	.149	14.46	33.05	45.8
Ohio River at Sewickley.....	19,500	.218	.980	1.95	2.42	.499	2.78	2.44	.492	.256	.236	.569	.288	14.60	37.59	39.0
Brooklyn Creek at Youngsville.....	204	.204	1.94	2.40	2.72	.612	2.73	1.88	.444	.204	.124	.106	.104	18.32	35.94	42.6
Brooklyn Creek at Youngsville.....	481	.138	.668	1.99	2.18	.511	3.41	3.02	.507	.151	.096	.108	.233	14.80	32.80	45.1
Brooklyn Creek at Nebraska.....	300	.175	1.34	2.84	2.84	.727	2.89	2.52	.430	.251	.128	.129	.115	15.34	34.58	44.4
French Creek at Carters Corners.....	208	.313	2.77	2.77	3.78	.680	3.97	2.21	.316	.132	.065	.063	.066	17.90	34.25	58.1
French Creek at Saegertown.....	629	.227	2.22	2.70	3.28	.579	3.45	2.11	.343	.136	.076	.062	.057	17.33	31.97	54.2
French Creek at Utica.....	1,028	.159	1.65	2.25	2.55	.509	3.14	2.01	.339	.121	.075	.132	.091	15.14	31.84	47.6
Cusawago Creek near Meadville.....	90.2	.064	1.87	1.54	2.62	.416	2.25	1.82	.147	.085	.008	.202	.031	14.68	28.58	52.1
Sugar Creek at Sugar Creek.....	166	.155	.885	1.54	2.34	.510	2.52	2.20	.381	.254	.125	.176	.197	12.42	32.86	37.8
Clarion River near Piney.....	951	.130	.468	1.53	2.34	.680	2.16	3.15	.583	.217	.125	.176	.197	12.42	32.86	37.8
Red Bank Creek at St. Charles.....	588	.106	.373	1.42	2.02	.339	1.89	2.28	.562	.322	.157	.261	.183	11.04	36.24	30.5
Mahoning Creek near Dayton.....	321	.185	.670	1.85	1.92	.355	1.75	2.03	.351	.638	.278	.274	.464	12.91	41.61	30.9
Stony Creek near Ford City.....	280	.079	.328	2.40	1.91	.340	2.19	1.90	.260	.147	.117	.185	.243	14.19	42.77	33.2
Stony Creek at Johnstown.....	467	.214	.407	1.44	2.99	.688	2.52	2.28	.503	.413	.572	.998	.548	18.24	41.58	36.7
Kiskiminitas River at Avonmore.....	1,723	.232	.594	2.16	2.43	.688	2.52	2.40	.478	.453	.626	1.70	1.12	17.81	42.82	41.6
Blacklick Creek at Blacklick.....	390	.233	.577	2.80	2.10	.618	2.83	2.36	.369	.544	.236	1.66	1.87	18.26	43.58	41.9
Loyalhanna Creek at New Alexandria.....	245	.303	.463	2.18	2.18	.600	2.97	2.45	.439	.340	1.02	2.33	1.67	17.99	43.10	41.7
Monongahela River at Charleroi.....	5,213	.218	.809	2.33	2.73	.419	4.13	1.96	.578	.258	.256	.417	.175	16.32	41.32	39.5
South Fork of Tenmile Creek at Jefferson.....	180	.021	.063	.906	1.58	.102	2.80	2.65	.102	.065	.456	.302	.082	10.41	32.86	31.7
Youghiogheny River at Connellsville.....	1,326	.224	.673	2.16	3.47	.475	2.98	2.71	.672	.431	.456	1.18	.347	17.98	42.19	42.6
Youghiogheny River at Sutersville.....	1,715	.231	.615	1.74	3.03	.417	2.83	2.49	.618	.411	.428	1.25	.373	16.45	40.95	40.2
Casselman Run near Marietta.....	382	.162	.810	1.84	3.29	.401	2.93	2.52	.550	.414	.469	1.10	.317	16.01	43.75	36.6
Big Piney Run near Salisbury.....	24.5	.114	.354	1.62	3.31	.490	2.01	2.54	.394	.502	.130	.508	.441	13.89	44.87	31.0
Laurel Hill Creek at Ursina.....	121	.183	.826	3.31	4.05	.798	4.12	3.36	.778	.591	.917	2.58	.826	25.07	41.29	60.7
Turtle Creek at Trafford.....	54.8	.130	.215	1.82	1.90	.418	1.92	2.26	.325	.074	.199	2.04	1.84	14.37	35.31	40.7
Beaver River at Wampum.....	2,235	.075	.360	.921	1.57	.136	1.15	1.05	.129	.099	.090	.434	.259	8.07	31.29	16.2
Shenango River at Sharon.....	608	.032	.360	.921	1.57	.136	1.15	1.05	.129	.099	.090	.434	.259	8.07	31.29	16.2
Shenango River at New Castle.....	792	.040	.259	.768	1.17	.253	1.68	1.13	.066	.015	.050	.574	.196	6.95	31.72	23.9
Little Shamango River at Greenville.....	104	.080	.487	.910	2.33	.287	2.38	1.41	.208	.082	.011	.264	.302	10.39	31.40	33.1
Pymatung Creek near Orangetown.....	169	.016	.228	.459	1.11	.186	1.82	1.994	.057	.057	.057	.057	.057	5.97	30.04	19.9
Compoquessing Creek near Hazen.....	356	.036	.088	.438	1.40	.274	2.23	1.96	.175	.069	.158	1.10	.452	9.52	31.44	30.3
Slippery Rock Creek at Wurtzburg.....	406	.096	.206	.660	1.05	.233	1.80	1.26	.232	.239	.229	1.67	.298	9.09	35.18	25.8



Summary of run-off in second-feet per square mile, run-off depth in inches, precipitation, and per cent run-off to precipitation, for the year ending Sept. 30, 1934

## Potomac River Basin

Station	Drainage area Square miles	Run-off in second-feet per square mile												Run-off in inches	Pre- cipita- tion inches	Per cent
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Year		
Evitts Creek near Bedford Valley.....	30.2	0.155	0.155	0.401	1.56	0.261	0.596	1.18	0.371	0.237	0.097	0.199	0.301	0.460	6.26	29.99
Licking Creek near Sylvan.....	196	0.290	0.200	0.359	1.33	0.215	0.804	1.77	0.415	0.200	0.134	0.239	1.04	0.600	8.13	39.45

Note.- See record of individual station for notations regarding diversion and storage.

Precipitation on Pennsylvania for the 47 years ending September 30, 1934

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Year
1887-88	1.70	1.92	3.56	4.19	2.50	3.65	2.52	4.24	3.04	3.45	7.05	4.84	42.56
1888-89	4.02	3.37	3.14	3.64	1.96	2.90	4.50	5.91	5.43	6.90	3.24	5.05	49.96
1889-90	3.85	6.72	2.77	3.04	4.32	5.15	3.46	6.71	3.42	3.52	5.76	4.57	53.29
1890-91	5.87	1.49	3.97	3.64	4.61	5.10	2.08	2.12	4.50	6.32	5.09	2.39	47.18
1891-92	3.06	2.65	4.09	4.77	1.75	4.14	2.04	5.70	5.64	3.93	3.77	2.81	44.35
1892-93	1.72	4.34	1.69	2.85	5.92	2.52	4.74	5.54	3.12	3.15	4.50	2.67	41.76
1893-94	3.26	2.93	3.06	2.29	3.53	1.63	3.62	8.88	2.57	2.32	1.84	6.30	42.23
1894-95	4.26	2.60	3.95	4.17	1.22	2.31	3.76	2.68	3.50	3.24	3.23	1.71	36.53
1895-96	1.99	2.48	3.22	1.43	4.90	4.51	1.75	2.05	4.64	6.89	2.22	4.82	41.70
1896-97	3.19	3.55	1.20	2.15	3.22	3.22	3.30	5.24	3.38	6.26	3.17	2.18	40.12
1897-98	1.32	5.22	3.95	4.25	2.23	4.31	2.93	5.11	2.79	3.36	3.60	1.70	43.83
1898-99	5.20	4.03	2.96	3.05	4.05	4.87	1.76	3.82	3.51	3.91	4.01	4.70	45.89
1899-00	1.55	2.66	3.04	2.64	4.22	3.61	1.57	2.79	3.60	4.86	3.33	1.77	35.64
1900-01	2.74	4.10	2.08	2.22	0.96	4.14	5.41	5.56	3.47	3.88	6.81	3.39	44.76
1901-02	1.23	2.66	5.91	2.90	3.99	3.92	3.56	1.96	5.97	6.04	2.62	4.66	45.22
1902-03	4.64	1.53	5.54	3.51	4.49	4.52	3.53	1.67	6.53	5.36	5.29	2.09	43.60
1903-04	4.64	2.18	2.66	3.55	2.41	4.29	3.45	4.06	4.68	4.36	3.37	4.36	43.43
1904-05	2.87	1.14	2.48	3.70	1.70	3.66	2.84	2.59	4.39	4.87	5.71	3.41	39.56
1905-06	4.23	2.47	3.57	2.53	1.70	4.46	3.13	3.23	5.43	4.31	5.62	2.46	43.14
1906-07	4.46	1.48	3.97	4.36	1.91	4.26	3.02	4.99	3.84	4.99	2.94	6.37	44.30
1907-08	3.16	3.50	4.30	2.62	4.65	4.76	3.51	6.22	2.36	4.81	3.22	1.60	44.93
1908-09	1.95	0.90	2.86	2.92	4.84	3.07	5.39	2.90	4.48	2.14	2.31	2.27	36.03
1909-10	2.27	1.40	3.39	5.55	3.59	0.56	5.07	3.38	4.31	2.42	2.61	4.49	39.04
1910-11	1.91	2.45	2.65	3.54	2.27	2.57	3.79	1.97	4.71	2.81	7.63	5.29	41.69
1911-12	4.85	2.84	3.27	1.92	2.20	5.05	4.39	3.15	3.36	5.29	5.02	5.57	46.99
1912-13	2.74	2.17	3.27	4.95	1.84	5.27	3.82	3.96	2.26	4.16	2.69	3.28	40.31
1913-14	5.44	3.05	2.63	3.37	2.78	2.61	4.66	3.34	3.71	4.19	3.85	0.99	40.62
1914-15	2.35	1.76	4.64	5.56	3.90	1.28	1.92	4.16	4.00	5.28	6.71	2.56	44.11
1915-16	2.65	2.18	4.06	2.42	3.06	4.12	3.65	3.19	6.14	4.45	2.57	3.77	42.28
1916-17	2.25	2.27	3.07	3.60	1.46	3.68	2.08	3.39	5.38	4.33	6.69	2.31	40.61
1917-18	6.38	0.63	1.78	3.51	2.46	2.34	4.53	5.04	3.46	3.05	4.12	3.97	41.27
1918-19	3.17	2.03	3.38	2.53	2.23	3.57	2.70	5.80	3.90	5.90	5.43	2.07	42.71
1919-20	4.77	5.55	2.61	2.47	2.44	2.83	4.39	2.02	4.97	4.37	4.66	3.99	44.87
1920-21	1.37	3.54	3.28	2.58	2.59	3.33	3.11	3.93	3.12	4.13	3.83	4.68	39.79
1921-22	2.16	5.75	2.59	2.26	1.99	4.57	3.17	3.21	5.11	3.62	3.14	1.48	38.81
1922-23	2.51	1.21	2.75	4.26	2.16	2.49	2.94	3.50	2.73	4.24	3.10	3.55	35.44
1923-24	2.38	2.83	4.99	4.34	2.94	2.83	4.15	5.71	5.57	3.42	3.73	6.44	49.58
1924-25	0.28	1.54	2.13	3.53	2.16	2.56	2.32	3.49	3.04	5.57	2.28	2.80	31.70
1925-26	4.83	3.56	1.72	2.80	4.06	1.91	2.03	1.78	3.63	3.62	5.69	5.81	41.64
1926-27	4.51	4.49	2.58	2.90	3.42	2.61	3.52	4.14	3.72	4.97	4.12	2.03	45.12
1927-28	6.40	4.95	4.41	2.08	3.42	3.24	5.50	2.23	7.96	5.44	4.60	2.35	52.66
1928-29	1.78	2.32	1.16	3.37	2.87	2.69	6.12	4.81	3.56	2.81	2.52	3.71	37.72
1929-30	5.59	3.39	2.77	2.25	2.69	3.03	2.71	3.03	4.20	2.23	1.47	2.45	35.81
1930-31	0.99	1.48	2.29	1.46	1.98	2.96	3.33	5.28	3.71	5.28	4.01	3.15	35.92
1931-32	1.83	1.52	2.85	4.51	1.64	4.41	1.71	3.69	3.15	3.39	2.82	1.45	32.97
1932-33	5.31	4.74	2.19	2.00	2.30	5.33	4.49	5.86	2.58	4.26	7.61	4.66	51.34
1933-34	1.91	1.55	2.88	2.64	1.31	2.96	3.06	2.51	3.64	4.01	4.94	6.58	37.86
Mean	3.21	2.83	3.13	3.20	2.27	3.42	3.42	3.94	4.10	4.29	4.23	3.50	42.20



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